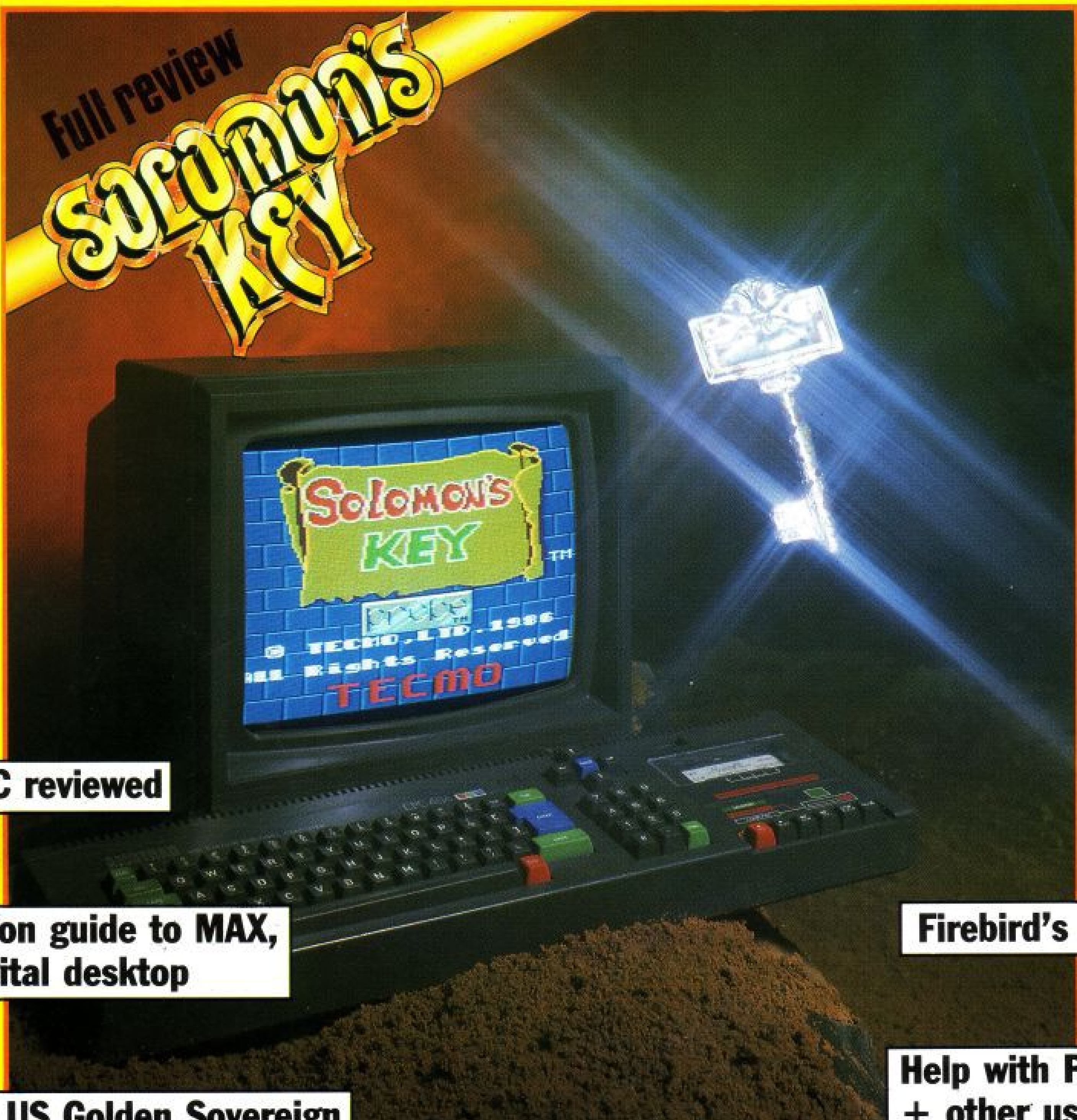
October 1987 £1.00

AMSTRAD COMPUTER USER



Arnor C reviewed

Hands-on guide to MAX, the digital desktop

Win: A US Golden Sovereign

Firebird's fortunes

Help with Protext + other useful tips

Official Amstrad Home Computing Magazine

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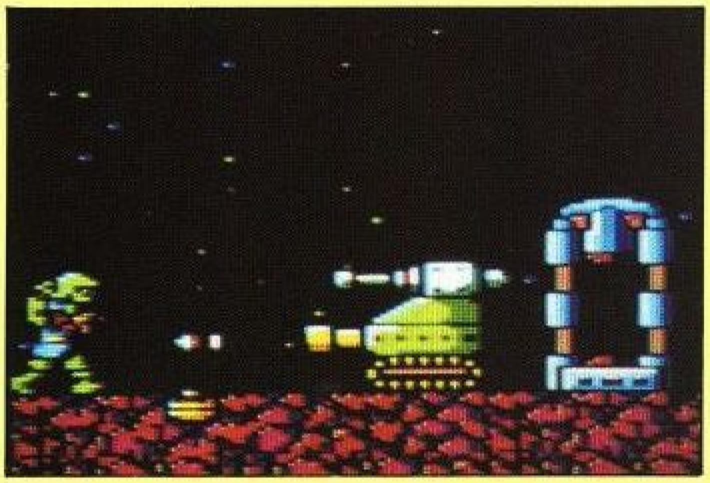
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AMSTRAD COMPUTER USER

The official magazine for all users of Amstrad computers

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Freescape: A new technique unveiled

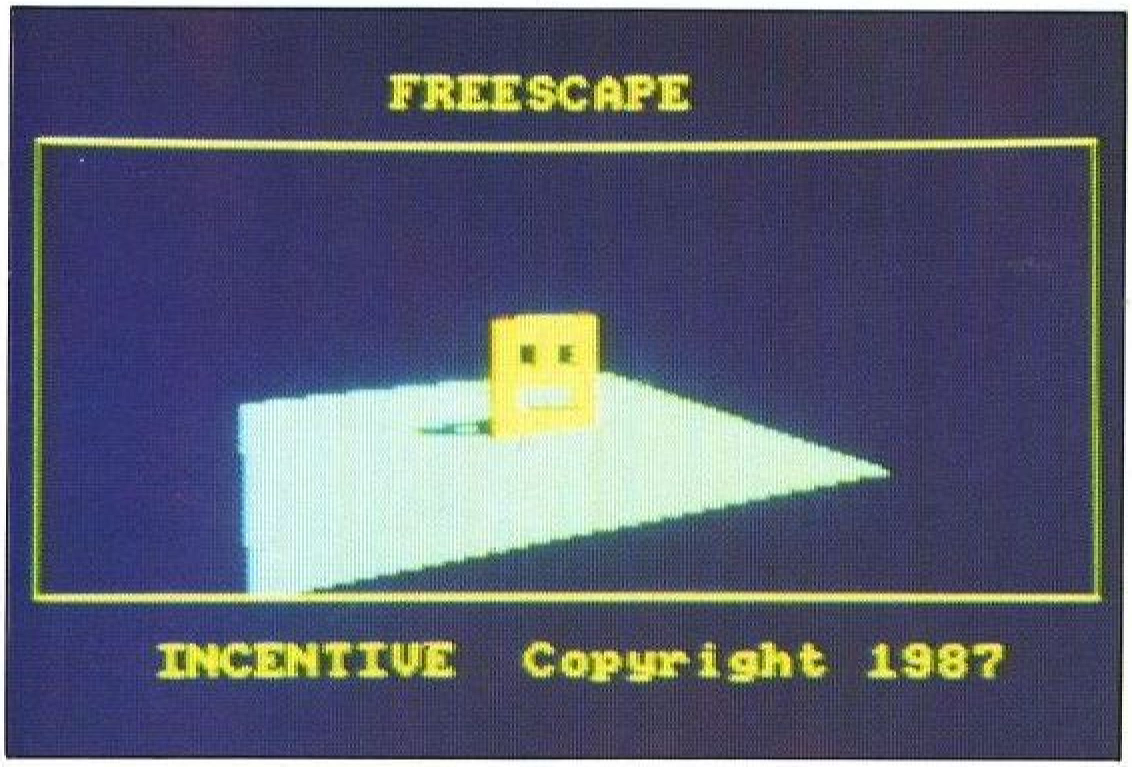
IT is not every day that a software house claims a major breakthrough in programming techniques, it's actually about once a month. And about once a year the software house is actually talking sense and has done something clever. This year it seems to be Incentive. The firm has actually been honest when claiming all the guff that software houses usually claim.

Freescape is a programming technique which centers around space and shapes. A model universe is built inside the computer and you are free to wander around buildings and explore.

You can have one of two views, either from a tank or a plane. Because the views are calculated, not stored, it is possible to have thousands of billions of views.

All this processing takes time and will slow things down a bit, so games will have to be designed with the limitations of Freescape in mind. The first title will be Driller and should be available towards Christmas.

The good thing about Incentive is that they have always produced good Amstrad versions of their programs and Freescape is no exception. So when Freescape appears in the shops it may well be on a CPC before anything else.



New games at PCW

The PCW Show at Olympia is the place to see all the new products which software houses are lining up for Christmas. Heading the line-up are Gremlin, who have seven new games. **Gary Lineker's Superstar Soccer** is a mixture of strategy and arcade games. You play the centre forward but have to select the team as well as train and decide on tactics. **Mask II** the sequel to Gremlin's current game based on the TV series. Divided into four missions which rely on your using a mask to best effect. **Basil the Great Mouse Detective**, is not based on a Siberian hamster *(Is no rat – Mr Fawlty)*, but the Sherlock Holmes-like character from the latest Disney film. **Blood Valley** is a fantasy fighting adventure based on the Duelmaster books. You play a character trapped in a world peopled by evil warriors. Your aim is to escape, and when you find out that this has been programmed by Mark Smith and Jamie Thomson, who did The Way of The Tiger, you get the idea that this is not going to be easy.

Compendium is a novelty title. Up to four players take part in a game featuring the bacchanal Tiddly Wink and his wife Mavis, where the games of your childhood come to life. **Alternative Games** is a country fete simulation, wellie wanging, sack racing and pole climbing. A game for the fete-hearted perhaps. Rounding off the Gremlin goodie gathering is **Masters of the Universe - The feature movie**, the game in which you take on the role of He-man, to out-wit and out-fight the unbelievably evil Skeletor.

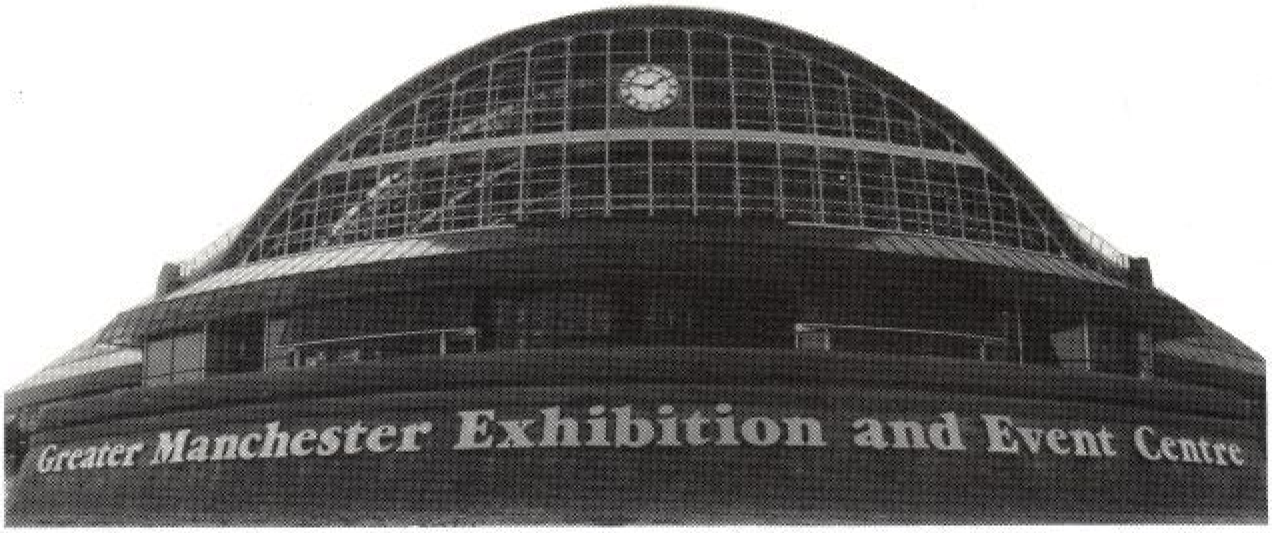
Activision plans quite a splash. It'll be showing **Rampage**, the arcade game where you play a king kong-like monster and get points by demolishing buildings, **Predator** a game based on the Arnold Schwarzenegger film, and **Bangkok Knights** a Thai boxing simulation from System 3, plus the two new Infocom adventures, **Plundered Hearts and Beyond Zork.**

Activision's sister title, Electric Dreams, will model it's stand on motor racing as it will be showing **Super Sprint,** the excellent Atari overhead view motor racing game, **Super Hang-on** the motorcycle racing game from Sega, and **Firetrap** from Data East.

The motor racing theme is continued over on the Martech stand, where has been tied up a deal to produce **Nigel Mansell's Grand Prix**. The game will put you between the wheel and engine of the Honda V6-powered Cannon Williams FW11B formula 1 car which looks set to win the constructors championship this year.

The game can be played at two levels, either a simple racing game like 3D Grand Prix, or a fully planned race with fuel limits, tyre changes and a computer link to the pits.

The second new licence from Martech is for **Slaine the King,** the 2000AD character. This will be released under the new Creative Reality label. Bargain hunters should seek out the Martech stand for discounts on current titles like Nemesis the Warlock.



The big show goes North

G-MEX in Manchester – Britain's most impressive exhibition centre outside London – is the setting for the next Amstrad Computer Show which runs from October 23 to 25.

It will house the country's biggest computer specific show ever held outside London and was chosen for its ability to accommodate and reflect Amstrad's current dominance of the UK micro scene.

It took three years to develop the 100,000 sq ft Greater Manchester Exhibitions and Events Centre. The £20 million project began with the shell of a listed former railway station.

There will be no shortage of attractions for enthusiasts – including the PC1640 just launched by Amstrad, all the latest hardware and software and lots of bargains.

"The last Amstrad Computer Show at Alexandra Palace was the biggest and most successful computer specific exhibition ever held in the UK", said Derek Meakin, head of Database Exhibitions.

"Now the scene moves North to Manchester where once again we have had to take much more space than before in order to accommodate the ever growing number of Amstrad users and exhibitors.

"The event seems sure to set new records for attendance and turnover".

Midi marvels

A MIDI interface will allow you to connect your CPC to an increasing number of musical instruments. The British Music Fair saw a huge variety of boxes whichyou to connect your CPC to an increasing number of musical instruments, the British Music Fair saw a huge variety of boxes which would benefit from being connected to something like an Amstrad.

Along with the usual synthesiser keyboards were midi-compatible guitars from Casio, piano accordions from Honer and a 68000-based drum kit from Simmonds.

This offers special areas on the drum pad for damping the sound and a visual display for setting up the kit. All the controls are icon driven with a trackball.

It sounds splendid, but then it should not-only has it got a 16 bit CPU, it also uses four input/output processors and two NEC gate arrays (the same technology used by Amstrad in the PCW and +3 computers). This little lot will set you back £6,000.

On a more down to earth level Cheetah launched a budget priced digital drum kit. for under £300 you get both the drum pads and a drum machine to fill in beats. More details are available from Cheetah on 0222 555525.

Hewson cheapies

HEWSON is a software house dear to our hearts. It produces good games because programmers like working for it. Until now only good full price games have been produced, but what about all the games which don't quite make the Hewson grade? Well the Hewson solution is a Rack-It, well not really a racket, more a new games label.

Rack-It is the name of Hewson's range of £2.99 games. Meanwhile Hewson is about to launch Evening Star, a Southern Bell type steam train simulation.

The difficult thing about selling budget games is getting them to all the non-computer shops which sell them. You may have noticed Mastertronic games in your local 7-11 or petrol station. It is this distribution which is the key to making money with budget titles and Hewson has not got the experience in this field. So it has teamed up with Mastertronic who will be selling Rack-It games alongside Mastertronic and Americana titles. Look out for them soon.

Aston Martin competition

LAST month's Aston Martin competiton has caused some problems. We discovered, after the magazine had gone to press, that the company is starting work on a secret new car to replace the current range.

Details which have emerged show that the new car is a real cracker, but Aston Martin has had to cancel all factory visits until after the new dream machine is launched.

This would mean delaying the prize for a year, so an alternative first prize has been arranged.

The winner and a friend will be taken to the National Motor Museum at Beaulieu for a VIP tour of the sights, including a 1922 Aston Martin racing car. Because of this change of plans we are extending the deadline until Friday October 30. The questions remain the same as last month's and you can enter using either that coupon or the one below.

ENTRY FORM

Name..

Address..

Telephone number..

1)..

2)..

3)..

Send your entry to:
Domark Competiton, Amstrad Computer User,
169 Kings Road, Brentwood, Essex, CM14 4EF

For all those who want to win £250 in the Electronic Yellow Pages competition, here's the answer.

Announcing a competition you can enter without a coupon, a stamp or an envelope. All you need to do is follow the instructions in the panel opposite to programme Electronic Yellow Pages into your 

computer. Answer one simple question and enter your name on the screen, and you then stand a chance of winning £250 or one of the many other cash prizes.

But ours is not the only competition you'll find on Electronic Yellow Pages. Rivalry is fierce between different plumbers, car

rental companies, builders and other competing advertisers. Each one can display their latest rates and special offers. So if you want to compare the prices of several different firms, just tap a few keys to find the lowest quote. Electronic Yellow Pages already covers all of London, Guildford, Reading and Watford. To find out more about how this new service works, or if you have any difficulty gaining access, phone our Helpline on Reading (0734) 506259. And even if you don't win the competition, you'll still find that Electronic Yellow Pages offers many rewards.

HOW TO ENTER

First, you must programme your terminal to connect to EYP:
if you have a Videotex terminal with a Database Directory, simply add EYP and the appropriate telephone number below to the menu, as shown in the terminal handbook;
if you have a Teletype terminal, (e.g. a microcomputer) simply set up a profile for EYP using the relevant telephone number and technical settings. If you are not sure how to do this, ask your computer supplier.
To gain access, dial the number you've programmed and, once connected, you'll be asked for a user ID number. Simply enter the special competition ID shown below, and follow the instructions.

ACCESS NUMBERS

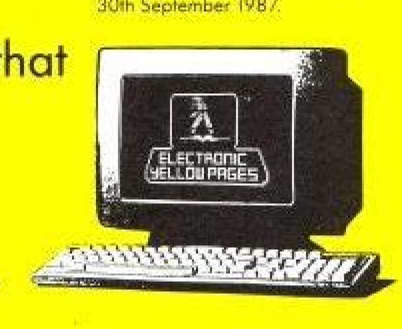
For Teletype 300/300
Dial: Reading (0734) 586255
Enter ID: 5005
For Teletype 1200/1200
Dial: Reading (0734) 597231
Enter ID: 5005
For Videotex 1200/75
Dial: Reading (0734) 585151
or go to Prestel page 3813
Enter ID: 5006
Like the whole EYP database, entering the competition is free.

TECHNICAL SPECIFICATION

Technical settings for EYP are:
7 data bits, 1 stop bit, even parity

PRIZES:

1st £250; 2nd £100; 3rd £50; 150 consolation prizes of £20.
The closing date for entries is 30th September 1987.



GALLUP SOFTWARE CHART

Pos	Move	Title / Publisher / Price	Comment	Last month	Market strength
1	Up	**BMX Simulator** *Code Masters* 1.99	Cycling simulator best played with a friend, a good, fun game with a low price. BMX may be on the decline, but the memory kind of lingers.	2	100
2	New entry	**Destructo** *Bulldog* 1.99	This month's fastest climber is, surprise surprise, a budget game. While many software seers are predicting the downfall of budget, the pound speaks mightier than the pen.	NE	97
3	New entry	**Paperboy** *Elite* 8.95	This game was late out on the Amstrad due to strict quality control. Written by an ex-Vortex man, it is the best conversion of the arcade game, even if it has no sound at all.	NE	96
4	Down	**Grand Prix Simulator** *Code Masters* 1.99	The racing game for those who know their opposite lock from a four wheel slide. Super Sprint by any other name would still play as sweet. This is a bargain.	3	95
5	Down	**Barbarian** *Palace* 9.99	Showing that sexisim is good for sales and a bit of a decapitation doesn't hurt the bank balance. Palace has exploited the fighting game theme with panache.	4	86
6	Down	**Ghost Hunters** *Code Masters* 1.99	A spooky game by the same programmers as Grand Prix Simulator. It will be interesting to see what happens with the full price games from Code Masters.	1	80
7	New entry	**Milk Race** *Mastertronic* 2.99	Good to see Mastertronic sponsoring sport. I would prefer to see more effort directed at the motor racing car sponsored by Mastertronic.	NE	56
8	Up	**Big 4** *Durell* 9.95	Top notch compilation which has two excellent games, one good game and a totally new program. With this kind of value it is a surprise that Big 4 has tumbled so far from number 1.	9	45
9	New entry	**Stormbringer** *Mastertronic* 2.99	David Jones brings back Magic Knight in the latest menu-driven arcade game. You don't need to have played the other MK games to win at this where the pixel man battles with his alter ego.	NE	56
10	Down	**Feud** *Bulldog* 1.99	First game on Mastertronic's new label. Chunky spirites and a mystic plot go to make up this 2D arcade game.	6	51
11	Down	**Six Pak** *Hit Pak* 9.99	Proving that compilations are as popular as ever this has scorched a trail into the chart and can be expected to hold on in there for some time.	5	55
12	New entry	**Run for Gold** *Alternative* 1.99	Proof positive that the small-time software house can still make a good showing if the price is right. Making a new entry into this chart is some achievement with so many good new titles around.	NE	44
13	New entry	**Ballcrazy** *Mastertronic* 1.99	A 2D Q-Bert type game, where you play the ball and have to bounce on bricks until they all reach the prescribed colour. Cute and fun, but lacks depth.	NE	39
14	Down	**Ninja** *Mastertronic* 1.99	The fist fiends fight in. This time with a more vicious trait and at a lower price. You have to fight off the hordes using a variety of weapons.	11	38
15	Down	**Konami's Coin Op Hits** *Imagine* 9.95	Take the best from the arcades into your home. Green Beret, Ping Pong, Hypersports, Mikie and the splendid Yie Ar Kung-Fu. Looking a shade dated now, but a good blast all the same.	16	37
16	Down	**Head over Heels** *Ocean* 8.95	Hours of entertainment make this a bargain. Deserves a top five place at least. Very difficult, but shows a good sense of humour. The next game from Jon Ritman will be a match of the day sequel.	10	36
17	Down	**Four Great Games** *Micro Value* 3.99	A cheapie compilation. To think that some people thought that budget software would see the death of the games industry. Still if they are such great games, why sell them at less that a quid each?	8	35
18	Down	**Army Moves** *Imagine* 1.99	The first Imagine game to result from a deal with the Spanish software house Dinamic. Bouncing buggies and 2D graphics.	12	35
19	New entry	**F-15 Strike Eagle** *Microprose* 9.95	The PC users favourite game, now available on the CPC. Both flying simulation and wargame tactics make this a cerebral shoot-em-up. Well programmed with detailed documentation.	NE	34
20	New entry	**Ultima Ratio** *Firebird* 1.99	The stock in trade of the budget field at the moment, a scrolly shoot-em-up. But this is an uninspired game – there are better, notably Mission Genocide from the same company.	NE	33

Key: Non-mover · Up · Down · New entry

Chart compiled by Gallup/MicroScope



Good vibrations

I HAVE a CPC 6128 and am very pleased with it and I buy your magazine every month in preference to the cheaper Australian ones.

I am writing to inform Amstrad computer users of a much cheaper alternative to SSA-1: Go to the local Tandy store (or the English equivalent) and buy a ⅛" phono lead and a mono to stereo adapter plug. Plug one end of the lead into the adapter and the other into any tape-recorder then plug the adapter into the stereo socket in the side of your 'Straddy.

Take an old cassette and rip out the magnetic tape. Put the empty cassette shell into the recorder and press the record button. Turn on the computer and presto - fabulous stereo sound, terrific with Smart Chat.

Tony Joslin
Brisbane, Australia

Exit!

FOR the last year I have used a PCW 8256 as a smart typewriter. But my daughter, my secretary and I have all thrown a wobbly through not knowing what to do when we try to save after typing away for an hour or so, only to get DISC FULL. There is, of course, no advice in the book.

Accepting the offer of disc manager by pressing ENTER is fine, and it's simple to erase or move a file to make space. But then? The next move can lead to disaster. We found the answer this morning.

The right key to press is EXIT and the precious script is safe. The process can be repeated if you haven't made enough room. Of course, it would help if the book explained in the first place that saving a document needs rather more than twice as many ks as it is long, and why.

After a year I'm seeing the possibilities of writing educational simulations, like pretending to be Brazil borrowing a few million dollars from the World Bank, and living through the next few years of interest hikes... can you recommend a book to take us through the next year?

The Revd. Tony Graham
Crawley, West Sussex

LD: *A good book to take you through the next year would be the Letts 1988 diary. No seriously, if you want to program then look at Program Your PCW by Ian Sinclair from Glentop publishing. You should also read* ***Amstrad PCW Magazine*** *which specialises in using your computer.*

I ♥ Arnor

I WAS surprised to read the letter from Dr Stadler in your July issue in which he criticised Arnor. At that time I was in contact with the company, having bought ProText, ProMerge and ProSpell. Being a non-technical animal I could not make the programs work. Arnor was the epitome of patience and helpfulness, replacing eproms without question and without even charging me postage.

Finally I received a helpful letter from Ben Carr from the Peterborough address, but by this time the programs were functioning perfectly.

Incidentally, I received the same sort of consideration from Pace when I made an awful mess of my Commstar software. It was replaced entirely free of charge. I am sure if all British firms were as competent and helpful there would be a great upsurge in our fortunes.

Michael Lewis
Rhyl, Clwyd

Help wanted

I'M interested in finding information concerning a green screen monitor, a CPC 464 computer, a MP1 modulator and a standard colour T.V. displaying the same things at the same time. I would be grateful if you could suggest a suitable piece of hardware for this task, as I am eager to do this. Also where would I buy it from?.

Glyn Dewis
Walsall, Staffordshire

LD: *No one makes a suitable box, although you could build one with the appropriate leads.*



Programming poser

AFTER trying for the umpteenth time to find the third door in Dan Dare (a game I bought for my son – he lied), I knocked it off and wondered what else to do.

Then I remembered a book I had borrowed from the library about 12 months ago. Unfortunately it was about the BBC Micro, but a chapter contained some questions from a G.C.E paper – one was to write a program, giving the prime numbers up to 100.

The author had included a possible answer, about 50 lines long. I thought it could be done a lot more economically and came up with the following:

```
10 MODE 2
20 N=1
30 FOR T=1 TO (N/2)+1
40 X=N/T
50 IF X>1 AND X<N AND LEN(STR$(X))<3 T
HEN GOTO 80
60 NEXT
70 PRINT N;
80 N=N+1:IF N>100 THEN END:ELSE GOTO 3
0
```

A lot shorter you must agree.

The routine in the book contained a complicated mathematical algorithm to solve the question, whereas I have used the str$ command as a short cut. So I had to write to ask, if computerites regard my way as a cheat, or is it a legitimate short cut to problem solving? Please vindicate me as I have a fiver on it with a mate.

W. Elliott, Lancaster

LD: *Try the algorithm method and see what it is like for speed. Your method is very slow and there are cleverer ways to calculate prime numbers, like only dividing by the previous primes.*

The shortest program is not necessarily the best. The str$ short cut is perfectly valid but it may be confusing if you do a lot of this kind of thing, so people who advocate structured programming would frown on it.

Your test is limited because it only works for values up to 100. Change line 80 to work with larger numbers and line 50 stops working.

It is not only that which is poorly structured, but the jump out of a loop which is considered bad practice.

You can't cheat at programming – either it works or it doesn't. But if pushed I would say your friend is right.

Name dropper

I HAVE compiled a short story as did C.Wilson (*ACU* August)...

In the year 1942, MIKIE went to play PING PONG with KANE. He met a HACKER called SPANNERMAN, who was playing 180 games of SPACE HARRIER! He was soon SPELLBOUND, JAMMIN all night long, and he had a SHORT CIRCUIT.

Some DODGY GEEZERS entered the CAVES OF DOOM and tripped over a FAT WORM, near the COLONY. MONTY was ON THE RUN from a BARBARIAN, who had a GREAT ESCAPE from his MINI OFFICE, in STARQUAKE.

'AUF WIEDERSEHEN MONTY', he said, but it was a NEVER ENDING STORY . . . because BATMAN went to GET DEXTER, and they travelled through the SUPER PIPELINE in SWEEVOS WORLD.

They found the GAUNTLET and made a CURSE ON SHERWOOD, which caused a REVOLUTION between SIR LANCELOT and the MAGIC KNIGHT. A RED HAWK was flying above, which meant the FEUD was over and you must learn to either DEFEND OR DIE!

Guy Sanders,
Herts.

Beeb boob

AS a business user of CPC computers, I was particularly interested by the review on BBC Basic by Richard Sargent in the August issue. One thing that we particularly miss with Locomotive Basic is the use of Arcsine and Arcos functions.

I write more in the nature of a complaint about the review. First, there was no reference to M-Tec's address, though after a little detective work, I managed to locate the phone number.

Richard seems to have got the cost of this software wildly wrong. I was informed that the cost was £49 plus £3 postage, plus VAT, and not the £29 quoted in the review. If you can obtain a copy of this software for us at £29, we would be most grateful.

G.E. Lewis
Canterbury, Kent

LD: *OK so we are fallible, it proves that the magazine is written by humans on computers and not by the computers themselves.*

Want on war

I AM looking for a serious wargame for the 6128. Two companies Strategic Software and MicroProse, produce good wargames, but not for the Amstrad. I hope you can let me know the computer wargame situation for the 6128 in the UK.

Marcus Rodda
Hammondville, Australia

LD: *PSS is a company which produces a large number of strategic wargames. You can contact them on (0203) 667556.*





Walkie talkie

THIS is an idea for making the Ambug talk by using the DK'tronics Speech Synthesiser. You need a miniature loudspeaker of 8ohm 38mm, with two metres of loudspeaker cable attached with solder, and a jack-plug (suitable to fit into the speech synthesiser interface) soldered to the other end.

Fit the speaker inside your Ambug and put the jack-plug into the interface. Now switch on the computer and load the speech software. It should now be easy to write a program to make it say something. If anybody is having trouble making it talk then write to me, including an sae. I have a 464.

D.J. Portman
11 Pen-y-fan Close Pentwyn, Crumlin
Newport, Gwent NP1 4JQ

All the diodes down my left side

LAST week I found an old *ACU* which included a review of The Hitch Hikers Guide to the Galaxy but you said it was only on disc for the PCW 8256. Is it available for the CPC 464 cassette and if it is, how much?

Lee Burridge
Caerphilly, South Wales

LD: *The Infocom adventures are available for all CP/M systems, so you can run Hitchhikers on a 464, 6128 or PCW – but they do need a disc drive. It is not available on tape, sorry.*

Disc dilemma

I OWN an Amstrad CPC 464 and am considering buying a disc drive, but much of the serious software is on floppy disc and I have never seen or even heard of floppy disc drives for the 464. If there is one and you know where to buy one, please tell me.

L. Glenister
Lincolnshire

LD: *The disc drive for the 464 is called a DDI-1, it costs around £160 and you should be able to get one from a good local computer shop. There has been a shortage recently so you may need to shop around.*

He's not wearing hairspray

I RECENTLY bought *ACU* and I must say that it's excellent, especially the software and hardware reviews and the hacking. I'm a 16 years old boy and the owner of a CPC 6128 and I'm very happy with it.

I'm a member of a computer club in Belgium. Two months ago we bought AMX-Pagemaker, but some things don't work like GRIDLOCK and EFFECTS (Italic, Bold, Attribute). A friend of mine bought the same program a week ago and his program works perfectly. So, I want to warn readers of *ACU* that they should test the program before they buy it.

I have a tip about monitors. When light falls on the monitor it's difficult to read text or to see what you are doing. A lot of shops sell screen filters to reduce the glare and the eye strain, but there is a cheaper way.

You can get the same result with hairspray. First cover the computer keyboard, then clean your monitor to make sure that all the dust is removed. When you start spraying, you must hold your aerosol can at least 30cm (12in) away from your monitor. A very good hairspray is Rojanet.

Jo Van den Berghe, Belgium

LD: *Thanks for the tip, Rojanet isn't easily available in Britain, but I'm sure others will do just as well. We often use a special matt spray when taking photographs of computers to cut down glare, but they get dirty very quickly afterwards.*

Oz Club

OUR club is interested in opening communications with other groups with a view to exchanging ideas and information.

With the worldwide popularity of the Amstrad, there is, no doubt, a wealth of information that would benefit all. The Amstrad Computer Club has been incorporated in South Australia, as a non-profit body, and has the active support of most retailers.

We have been meeting every Tuesday for about two years and currently enjoy a financial membership of about 150. We conduct courses in both Basic and C/PM, and we have some talented members who have developed both software and hardware ideas, among them a commercially distributed Screen and Graphics Package (Bunyip Software).

Our hardware mods include a switch that enables a 5.25in drive to run as drive A, as well as a reset button to escape a total system lockup without powerdown.

Any group wishing to reply can write to me at Amstrad Computer Club Inc. PO Box 210 Parkholme South Australia 5043

Frank Matzka
South Australia

Dixons accolade

I READ with interest the letter from J. McCluskey in the July edition of *ACU* and I would like to inform him that Dixons in the Kingsgate Shopping Centre in Dunfermline stock all Amstrad peripherals, including the MP2 Modulator.

Dixons also offer a special serial interface which plugs into the printer port of the CPC 6128 and a small piece of software on tape (for the CPC 464) which will work perfectly well on the CPC 6128.

As evidence of this I wrote this letter with this set up and Mini Office II. There have been several letters asking about cheap printers for Amstrad machines and this set up would fit the bill, providing of course that the use of graphics was not required.

Robert Peffers
Kelty, Fife

LD: *It just goes to show that you cannot generalise about computer shops, not even those as homogeneous as Dixons. There are good and bad everywhere.*

Utilities Unlimited!

We've brought together the very best non-games programs culled from past issues of *Amstrad Computer User*.

These clever programs cover animation, business, music, games hacks, and much more. Whatever your interest, there's something here for you – and at a very special price.

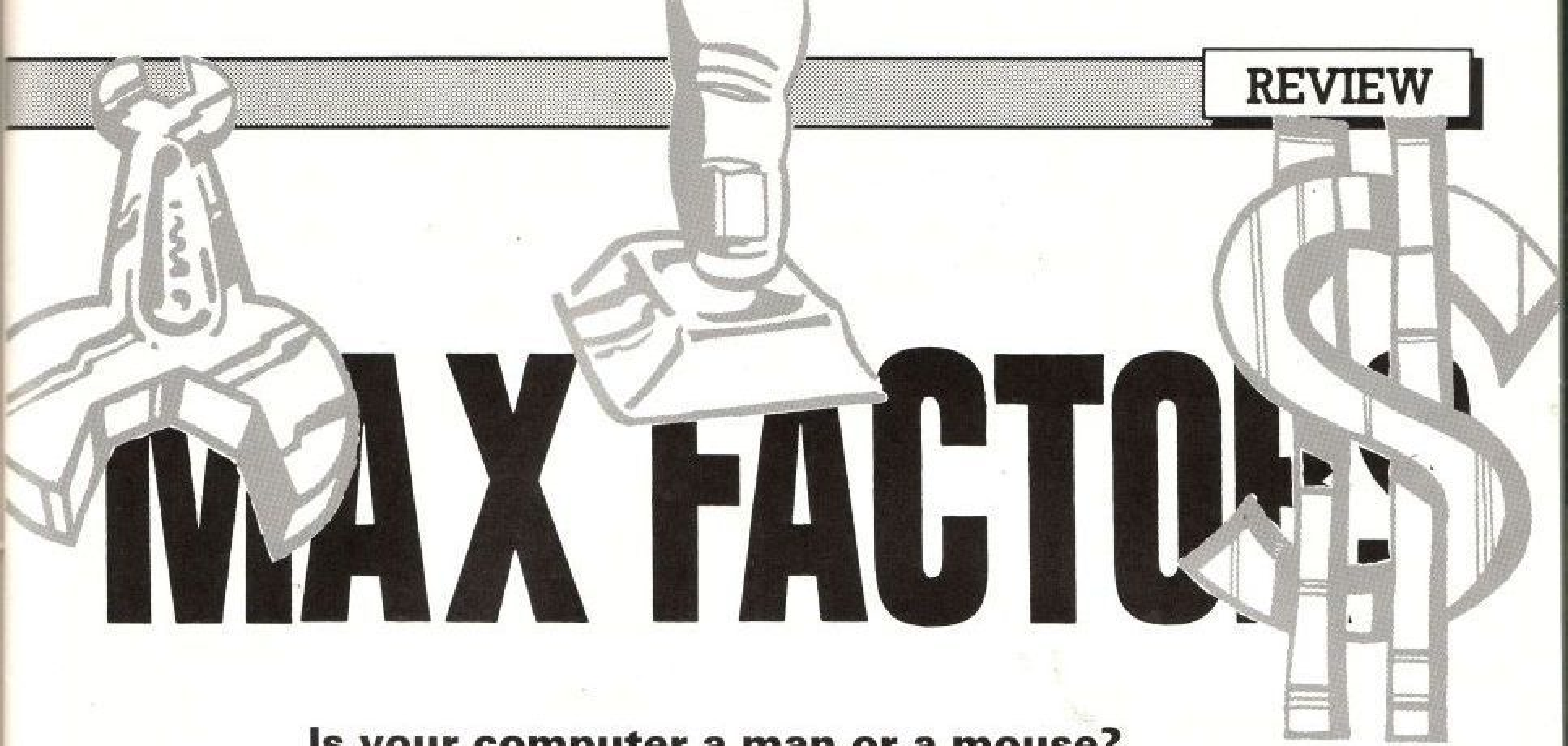
Homespread – prepare your budget with this simple but flexible spreadsheet.
Amgraph – produce bar graphs, pie charts from a table of numbers.
Diary – bring some order to your busy lifestyle (disc only).
Mode 3 – Mode 0 with four colours in only 8k, with accompanying demos.
Animator – become the new Walt Disney. Built-in 'tweening' facility.
Trace – re-direct the trace output to a window or printer.
Sorcery Plus Hack – modify the sprites and increase your survival chances.
Chord Finder – learn the difference between a suspended and flattened chord.
Jet Set Willy Hack – infinite lives and a magic teleport facility.
Double Height Print – expand your horizons with these tall characters.
Elite Disc Hack – add millions of credits or Elite status to your commander.
Justin's Scroll – discover how the experts program a scrolling landscape.
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MAX FACTORS

Is your computer a man or a mouse? Rupert Goodwins looks at MAX, the digital desktop from AMX and provides a guide to the fashionable jargon along the way.

MAX is a desktop for your CPC. No, not the flatpack from MFI, carve undying luv for Sandra, spill the ink and stick the chewing gum type of desktop, more the hi-res graphic interface to computer sort.

Load MAX, and instead of typing commands like LOAD and RUN you get to move an arrow about the screen. It might not sound like a great advance, but read on.

The first thing you see on loading (via the old-fashioned RUN "MAX route) the program is a fairly empty Mode 2 screen. At the top left hand corner sit three words and a little picture of a mouse. These are the pull-down menus. (One of the side effects of going upmarket to desktops is a proliferation of jargon of a quality and quantity sufficient to keep the most ardent acronymystic happy).

Down the right hand side of the picture are grouped various sets of pictures. Only you mustn't call them pictures, 'cos everybody knows what a picture is. They are icons. Sounds much better.

Similarly, the arrow's real name is the pointer. It moves about the screen freely, going whither you would point it. You can move it by the cursor keys, a joystick or the AMX mouse. The mouse is the recommended option, as with it you can "point" by moving your hand in a similar fashion to the way you would move to pick up something from a physical desktop.

And as the idea is to allow you to use your computer in the same manner as you would use a desktop full of pencils, files and oddments, this is why it all works better with a rodent. With the mouse, if you move your hand quickly the pointer moves quickly, and vice versa. It soon becomes second-nature.

When you move your pointer over an area of screen containing a pull-down menu or an icon, you can choose *(jargon, select)* the action that the menu or icon represents by pressing a button *(jargon, clicking)* on the mouse.

When you click on an object, it either becomes selected (you can tell because it changes from a normal picture to reverse), or springs into action.

With a pull-down menu, a list of associated options appear beneath it – move your pointer down to the option and click again, and the option happens.

Window winder

For example, there is a pull-down menu labelled DISC. Click on the word, and the options Copier, Formatter, Sector Editor, Dir. Editor and Fast Tracking appear in a list. Move down to the Copier and click, and a disc copy program starts.

You don't have to remember to type DISCCOPY followed by a string of magic letters and punctuation marks. The idea is that at each stage of the proceedings – the computer prompts you with all possible choices.

All you have to do is remember what it was that you wanted to do in the first place.

You don't even have to be able to read. A shame, after all that time we've spent teaching the Ed that A is for Amstrad, and M11 isn't pronounced autobahn, but if you can comprehend simple pictures you can now drive a computer.

The Apple Macintosh was the first massmarket computer to try and do everything by icons, and consequentially gained a huge following in the advertising and "creative" spheres where a knowledge of English is a disadvantage.

The icons in MAX are standard issue – pictures of disc drives, printer and dustbin are all guessable graphics. The selection of exploding and imploding arrows, the overendowed Trivial Pursuits pie, the graphic equaliser and the sets of rectangles might need a bit of explaining.

The rectangles represent windows. Yup, another word borrowed from reality. Windows are areas of screen that "open up" to display information, so if you select a disc drive, a window opens up to show the directory.

One of the basic ideas behind the whole desktop concept (no wonder the ad people fell in love with the Mac – concepts, ideas and pretty pictures...) is that lots of things can be going on at once.

On a CPC, where things can't actually happen simultaneously, you should be able to run something, then do something else, and finally go back to the first something without having to abandon it at any stage.

If you open a window, and it obscures an older window that you were playing with before, then the older window and

everything associated with it is remembered by the computer. When you finish with the new window, you close it and you find yourself back in the older one as if nothing had happened. Closing windows is done, as 'most everything else, by pointing and clicking.

Remember the rectangles? These allow you to swap which window you are working on *(the active window, jargon junkies)*, and shuffle through sets of windows when looking for something you opened a while back.

The sets of arrows expand or contract the active window (thus hiding or revealing what's below, and changing the work area). For example, if you're going through a disc, deleting old files and having a good tidy up, you'll want as many files on screen at once as you can have.

You make the active window as big as possible. If you want to copy files from one disc to another, you open two windows (one for each disc), and generally speaking have each occupying half the screen.

The graphic equaliser icon is the control panel. Click on this, and you get a set of options allowing you to choose mouse or joystick, screen colours and speed of operation, as well as personal preferences as to how exactly the menus work.

The paper and ink colours are presented as a pair of sliding controls, and on a monochrome screen allow you to change the brightness and contrast of the display in a very impressive manner. You cannot set ink and paper to precisely the same colour, which is a good way to become totally adrift in a graphic interface (you can't type in commands blind!).

That Trivial Pursuit icon . . .

The rest of the icons mirror functions available from the pull-down menus. There is a very useful sector editor (the pie icon), which allows the brave to alter any byte on a disc, including the words in games to hilarious/juvenile (depends on your sense of humour) ends. It can also mess up a program completely.

The Directory editor can mess up an entire disc completely, so merely brave hackers need not apply. Foolhardiness (or a backup) is a prerequisite.

The editor can also rescue an erased or corrupted file, so it might just save your leathery hide one of these days. But you do need a good knowledge of make safe use of such powerful facilities.

The directory function was mentioned earlier. When you click on a disc icon, the files on the disc in the drive appear in picture format – a text file looks like a page of text, a Basic program like a listing, and so on. By clicking on the file of your choice, and then clicking on the RUN icon (a little man running) a program can be got going.

Most programs will work from the MAX desktop, certainly I did not experience any problems, although the manual does warn that certain unspecified protected programs may have unspecified problems.

Documentation

Mention of the manual allows me to slip from descriptive to reviewer mode. The manual was a little annoying, for a number of reasons. The first is that I had to look at it at all in the first half hour of playing with MAX.

The main reason for having desktops is that they are completely obvious. You shouldn't have to think when using them, and they should never be so obscure in operation that you have to resort to a manual.

MAX fell down a couple of times in this respect, the major problem being the RUN icon. In every single one of the many desktops I've used previously, there is a technique called double clicking. To run a program, you point at it and click twice in quick succession. And it runs.

This doesn't happen with MAX, I don't know why, and it is incredibly annoying. And since I'm on my soapbox...

Chock-a-block buttons

The optimum number of buttons on a mouse is one. Any more, and things get confusing, and the whole idea of point and click gets murky. The AMX mouse has three buttons, and even though it's a well-designed and sleekly finished wee tim'rous beastie, it still has two buttons too many.

A strong-willed software designer would treat all buttons equally, but MAX sometimes needs one button, and sometimes another. Resort to the manual? Well, you can try.

Like I said, the manual was annoying. When I was slowly realising that double-clicking didn't work, I looked at the manual. Running a program, I was informed, is achieved by clicking on the program, and then clicking on the icon at the top left of the Control Icon window.

Yer wot? Looking at the labelled picture of the desktop, there was nowt labelled Control Icons. The paragraph was labelled Function Icons, but there was nothing by that name either on the picture.

In retrospect the Various Utilities window was guessable, and the stickman could have been running, but good icons don't rely on visual puns.

Other moans include the fact that it knows nothing about roms, and also doesn't think a file of type .DOC is a text file. You can't make it realise that, either. Neither can you associate a type of file with a particular program, so that when you try and run a .TXT file the desktop goes away and starts up your word processor for you.

Smooth stuff

But be still, AMX's racing heart. The rest of the desktop is wunderbar. The quality of the graphics is excellent, and full use has been made of the little known fact that the screen resolution in Mode 2 of the Arnold and that of the Macintosh are as near as dammit the same. It made me get the Windowlene and clean my green screen to do it justice (colour screens don't look quite as good, but that's Sugar's fault).

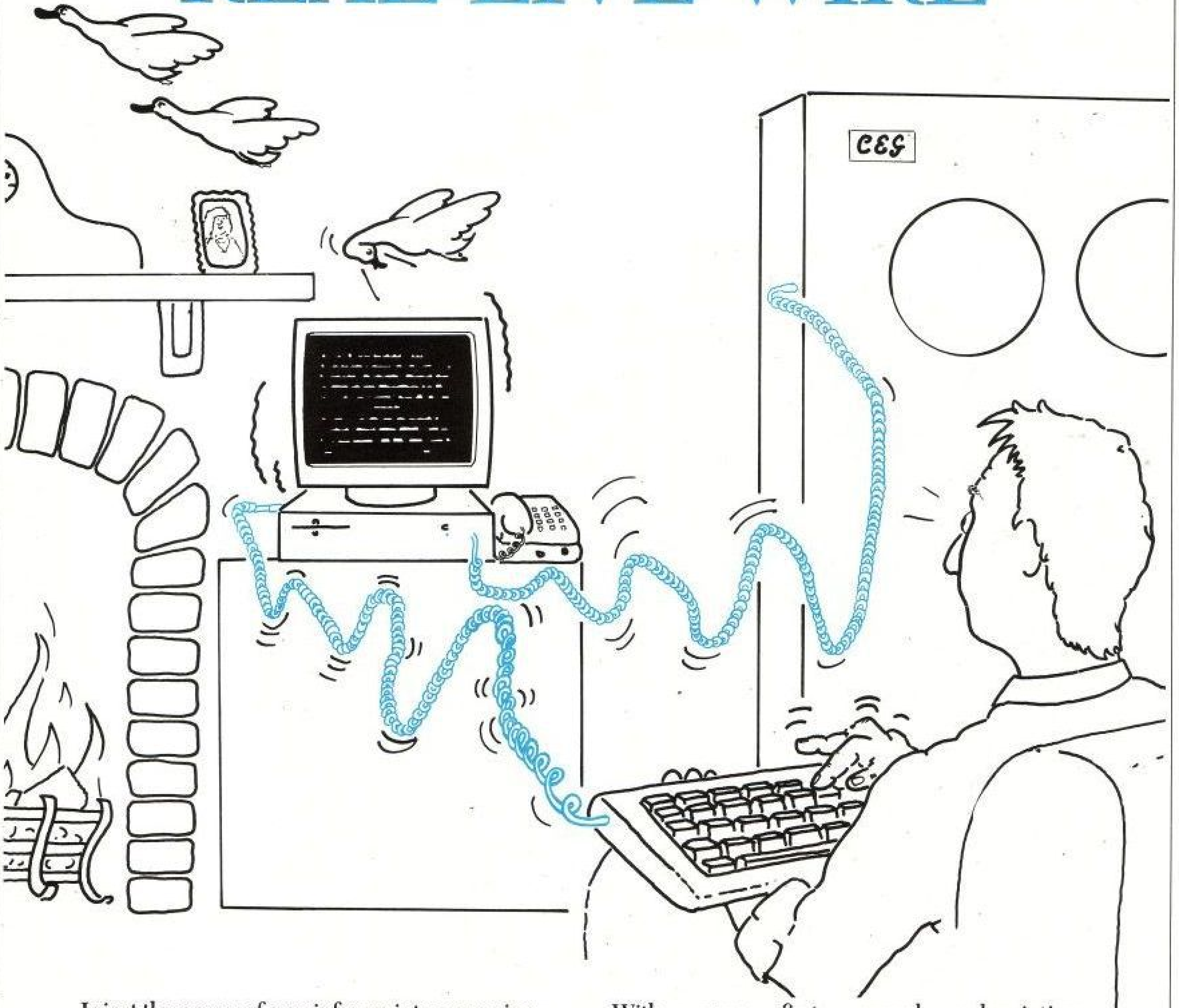
And the mouse/pointer action was so smooth, like writing with black chalk on white marble. Delicious. Similarly, the disc/sector editors are pretty indispensible, and alone justify the software. And the desktop environment really is the best way to make the most of discs.

More than that depends on AMX. It would be nice to see them produce some documentation so that people could write Basic programs that used the windowing and mousing. They've done it for the Spectrum.

And a rom version of the program, that perhaps worked in slot 7, would be almost as nice as one that used any extra memory you had to beef up the copying and other functions. But even as it stands, I think it really must be counted as a major contribution to the CPC software canon.

MAX is only available on disc, it costs £19.95 and is available from Advanced Memory Systems, 166/170 Wilderspool Causeway, Warrington, WA4 6QA. You can call them on (0925) 413501.

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Four cylinder motoring



Rupert Goodwin tries a few laps in Precision's racing machine, the 4010

DOT matrix printers have been around for a while. Like everything else in this business, they've had the traditional price drop, and now the impecunious punter can get a very acceptable near-letter quality printer for around £150. And for most uses, this type works well. But some people will always want more, faster.

The Precision 4010 is the first printer from this company. It is imported from Japan where apparently it is made by Nakajima, a Mitsubishi-like outfit which progressed from aeroplanes to computers.

At first glance it looks like the archetypal dot matrix machine, same off-white plastic case (with the same inky smudges), same set of push buttons and little flashing lights, same instruction manual. Why should it be of the slightest interest to anyone who's seen a printer before?

Take a look under the bonnet. There, residing in linear splendour, are four print heads. Not one, not two, not even three. And these four combine to produce 480 characters a second, or so 'tis claimed.

The theory is that if you send a line of 80 characters to the printer the first head can print one to 20, the second 21 to 40, the third 41 to 60, and the fourth the final 61 to 80. And all at the same time, so whereas one head could only produce 100 characters a second the four together can churn out 400.

Paper flow

The rest of the printer can go at the same speed as it would need to for just one head, so the mechanics can be simple and cheap. Early fast dot matrix printers of the writer's acquaintance were mostly devoted to moving large amounts of paper fast – the print mechanism itself was almost incidental. And when they went wrong, it could be the work of half an hour to hack through the floor-to-ceiling mounds of paper that filled the printer room.

No such problems with the Precision, which handled paper fed to it in a civilised and mannerly fashion (discounting the badly-positioned socket for the printer lead, which was guaranteed to foul the paper unless great care was taken).

Of course, there are potential problems with a multi-head arrangement. If they aren't all aligned up precisely with each other, horizontal lines and graphic output will look a little jagged. This wasn't a concern with the Precision, and it was impossible to tell from a straight line output where one head stopped and the adjacent head took over.

Concomitant with four heads goes four sets of driver electronics. As a result, the beast needs quite a bit more power, an area I wasn't entirely happy with. At the back of the machine is a large silver heatsink, used to dissipate the watts produced by the power supply in generating the right voltages for the printer's gubbins.

This heatsink got very hot, even when the printer was idle for long periods, and although it never got hot enough to cause a burn, touching it was very unpleasant. Having a bright silver heatsink is a little silly anyway, as any schoolboy knows matt black radiates the therms away with a much greater efficiency. There is an odd bit of power supply design in there somewhere.

Apart from that, the hardware seemed reliable enough. I did have a slight problem with the on/offline button; halfway through a series of graphic dumps the printer refused to go offline at all. I had to switch off and on again, but the problem didn't reoccur, and wasn't serious. Hohum.

Sensible switches?

Another new feature appears on this printer for the first time – the switches. Normally, switches to configure which character set to use, whether to throw in an extra line feed/carriage return

and all that sort of thing are titchy little things hidden away somewhere.

On the Precision they're on the front panel just above the main buttons, hidden away underneath a little panel. They're proper switches too, easily operable by all and sundry without the need for pointy tools. And there's a sticky label telling you just what each switch does. 'Great' I thought. 'Why hasn't anybody thought of this before'. But . . .

A passing computer dealer saw the switches, and rolled his eyes skywards. "Oh no", he said, "They'll fiddle with the switches and mess it up". "They" are the great printer-buying public (that's you), and my friendly dealer has a low regard for your technical skills. I know you a lot better, and was still thinking "what a good idea" until the time came when I had to use the switches.

The label is clearly marked. The switches are easy to use. There is a pretty picture in the manual. But nowhere could I find any indication as to which way was On and which was Off. In the end I had to do a little experimentation to work it out, and wrote the answer on a sticky label of my own (UP is ON, by the way).

Buffer duffer

I suppose this is as good a time as any to complain about the manual. I'd forgotten just how bad these things can be, and this is a particularly bad example of the art of Janglish. Dealers must get more than a few returns because the users can't understand the manual and think that the printer is faulty.

Why the importers can't get some English author to do a real Janglish-to-English translation I don't know. It would probably save 'em some money. As it is, I defy anyone to understand the explanation of the buffer on page 95.

The buffer is an area of memory within the computer used to store text before printing, and this one is a mystery unto me. It claims to be 8k, that's enough for 8000 characters. Since the printer can accept data at 5000 characters a second, one might presume to be able to send it an 8k document in just under two seconds and leave the printer to get on with it. In practice, the buffer seemed to fill up at just over 3000 characters. Now even 3k is bigger than most printers I use, and is a positive improvement. I would like to know where the extra memory goes. But I think I can guess.

A feature of this printer I didn't have time to explore fully is that the character sets are totally soft. Real pushovers, the lot of them. Soft character sets can be redefined from the computer, so that if you don't like the A you can send a set of codes to the printer to change it.

This isn't much good without a program to help you design the characters, but such programs are easily written so the keener owners could have quite a lot of fun. And since the computer needs somewhere to put the information about the character definitions, it could well be using that other half of the printer buffer.

Naff Letter Quality

Another good thing about having soft character sets is that you don't have to use the ones that come built in. With the Precision this is a very good thing indeed. The standard characters are OK, the usual sets of Pica, Elite, various condensed and italic options look nicer than any others I've seen recently, but the NLQ set is abysmal.

I think it looks considerably worse than the standard dotty options. There are no true descenders (the dangly-down bits of g,j and y), and the proportions of the lowercase characters are all over the shop. I'd be ashamed to write a letter using it. The fact that you can select the NLQ from a front-panel button with a little red light all its own is thus less wonderful than it could be.

That standard set looking so passable is due in some part to the carbon ribbon, the first time I've seen one on a dot matrix printer. Usually a fabric, ink impregnated ribbon is used, Carbon ribbons give a much more consistent black but don't last as long.

The ribbon in my printer had seen a little use (in the Ed's office) before I got it, but I was disappointed to see it fade as soon as it did.

Precision claims a life of two to three million characters for the carbon ribbon (cost about £8), but I'd put it nearer a week of standard use, this high ribbon wear being a common complaint amongst friends who have bought the same printer.

Fabric ribbons are half the cost. A standard Commodore type will fit, and should last a lot longer. Better keep the carbon ribbon for the occasional use when its impressive blackness is needed.

How fast? Really?

Next on the list of standard issue moans for printers is the compulsory disparity between the claimed speed and that obtained in practice. Like the good old days of "music power" with hi-fi amplifiers, the figures manufacturers boasts bear little resemblance to those the users squeeze out of the machine.

This printer is fast. Very fast even, but it certainly isn't as fast as 480 characters a second. Even under ideal conditions (full lines of text with few spurious carriage returns) and a condensed character set I could only get about 270 cps.

Only is the wrong word, at that speed the paper pours out of the machine at a rate of knots. But it isn't the published speed. Interestingly, the cover of the manual claims 252 lines/minute, which works out at about 330 cps. Someone somewhere is telling little fiblets.

The graphic speed was also very fast, but it was quite amusing to see just how long some graphics packages take to produce the data for the printer. Slower printers cover up for this, but slap a really fast output on the computer and the joins start to show.

Again, when the carbon ribbon was new and nice and black, the quality of the dumps was very good, but they were the first to show up the ribbon's rapid degeneration.

The speed will also drop rapidly when the stuff to be printed consists mostly of lines of less than the full width of the paper. The fewer characters per line there are, the less the heads towards the right of the printer will get used and the slower the speed will get.

Basic, and particularly poorly commented assembler programs, tend to be quite nasty in this respect, but spreadsheets and account data will love this printer. Indeed our pet accountant used it to produce the monthly figures for a company. In 120 column mode the printer got through the job (some 10 pages of figures) four times faster than the Epson he was used to. However, on looking down the list there were a couple of times where the paper feed seemed to slip for a few lines and cause some nasty overprinting. I couldn't reproduce it subsequently, but then I didn't have 10 pages of account data to print.

Another inexplicability was the dire warning on the carbon ribbon cartridge saying that if you wound the paper backwards you would do irreversible damage to the print mechanism and your guarantee would be void.

Now the way I and everyone I know sets up the paper to start at the top of the page is to wind the paper in until the perforations pass the print head, and then wind back a little to line it all up. According to the warning, this is dangerous.

If it is (and I couldn't see why by peeking at the mechanism) then it

wouldn't be beyond the ken of Oriental man to put in a ratchet to prevent backwinding. They haven't, so I'm confused.

In fact this printer confuses me all around. The idea of using four heads in dischizophrenic symphony is a good one, given that the rest of the printer remains much the same, and for certain types of data it is a solution which works.

Unfortunately, the rest of the design seems to have had little thought applied to it. Lessons have been learned in the past few years by printer manufacturers about little things like manuals, lead positioning and not burning the punter. And the NLQ...

But it's so speedy. Like cars, if they go fast enough you can forgive a certain lack of refinement. The Precision isn't really up to day-to-day letter production, but for people who need to produce lots of data in a hurry it can do the job nicely. Buy one for your pet accountant.

AS Rupert has said in the review, the Precision 4010 saw extensive use in my office before he got his mitts on it. I thought the 4010 was the most impressive printer *Amstrad User* has ever had for review.

Printers are always a compromise of price, speed, noise and quality. You can get cheap daisywheels which are slow and noisy, or fast ink-jet printers which are quiet but expensive.

If you want something which gives good quality, is quiet and fast then you'll have to spend £2,000 on a laser printer. Since the price is usually the constraining factor you then have to look at the other elements of the equation.

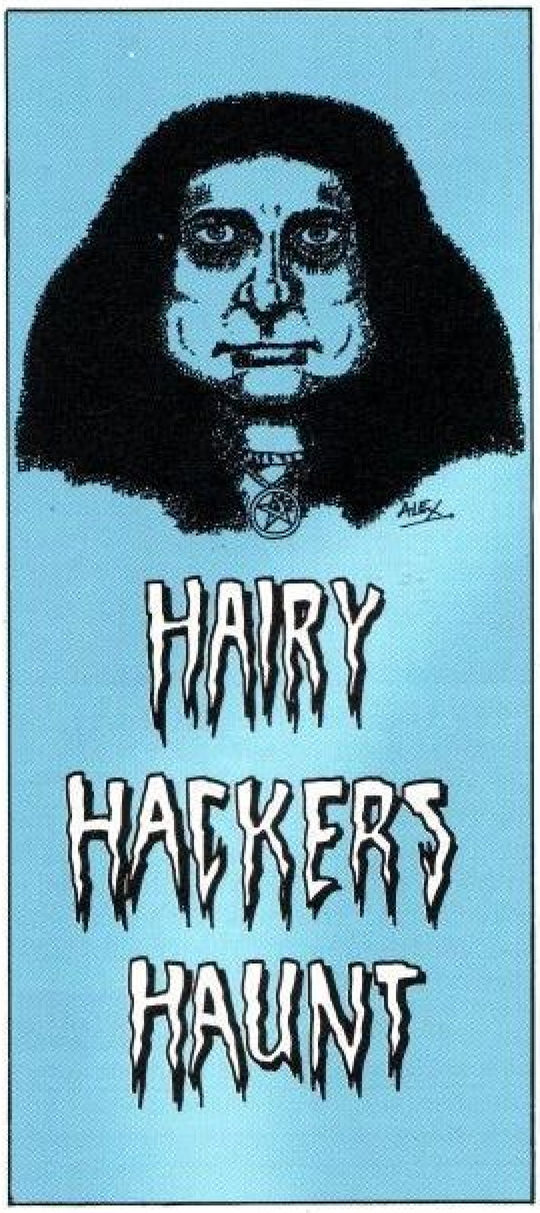
I have a 16cps daisywheel, which today would cost around £200. It's fine for letters, but when I have to print out long listings or articles it's sloth becomes a real nuisance. Until now I thought that I would not be able to justify the cost of a 200cps printer for my own use.

Even at the rate of 270cps the Precision printer is twice as fast as a DMP-2000. It may also be twice the price, but then anything else at this kind of speed is more like four times the price of a DMP.

Because I have a daisywheel printer I can forgive the poor NLQ. The 4010's speed is it's beauty. I like the external switches and can tolerate the inevitable noise. Printers are something you must shop around for; most places give a good discount so although the RRP is quite high you can often haggle.

More details from Precision on 01-330 7166. The 4010 has a recommended retail price of £424.35.

ACU





Of human bandage

Vax was asleep, but now he's been shaken and stirred he can present some pretty hot pokes.

THIS month, there's a fairly short Hairy Hackers section due to illness, details of which won't be gone into, and hopefully won't have to be not gone into again. Meanwhiles, the rest of the world is being equally meagre with it's words, and I've only got the one coherent letter to answer.

Timothy Bell is still having difficulty finding the cloaking device without cheating in Elite. Well, not having aquired it by fair means myself, I've asked the Ed, and he has reliably informed me (for once) that you have to blow up a Thargoid space-station and sift through the debris. Easy eh?

Justin carries around with him a little case of discs containing all his useful routines. He does this because he never knows when he is going to need it. It is called a Justin Case.

It appears, from a glance through the mailbag, that some of you lot out there are aquiring 3in floppy discs with no write tabs in them. Well, to make them writable, put a sticky label over the hole in the top left corner of the disc. This write enables it.

Another, neater, way of doing it is to use a small section of styrofoam (not polystyrene; that disintegrates) in the hole at the top of the disc. To remove old labels, use Evostik's Clean Art, or Tippex thinner Do this in a well ventilated environment away from lit fags and so on. or trouble will ensue.

OK, wee cockup in the GOBOTS poke a while back. The word "huperhody" on line 70 should have read "Hup Tahoody". This is apparently meaningful to somebody, and got damaged in transit to the page.

Justin's first poke of the month is some infinite lives for Ariolasoft's Killer Ring. That's the tape version (is there a version on disc?) *(No – Ed.)*

Killer Ring killer

Wind forward past ze first file, or PASTE [R] as we hackers say, and run this pokette:

```
10 MODE 1:OPENOUT "d":MEMORY &103F
20 tot=0
30 FOR n=&A000 TO &A020
40 READ a$:a=VAL("&"+a$)
50 POKE n,a:tot=tot+a
60 NEXT n
70 IF tot<>3069 THEN PRINT"Oh dear you
   'd better check the data.":END
80 PRINT"Please wait."
90 LOAD "ring",&1040
100 CALL &A000
110 DATA f3,21,40,10,11,40,00,01
120 DATA 00,80,7e,ee,53,12,23,13
130 DATA 0b,78,b1,20,f5,af,32,93
140 DATA 17,c6,c3,32,97,17,c3,aa
150 DATA 16,4a
```

And now a treat for all of those hackers



out there who are in on Bondage. Infinite lives and selectable start level for the tape version of The Living Daylights (apologies for the pun in line 90): PASTE[R]

```
10 MODE 1:MEMORY 12345
20 INPUT "Start level 1-8 ",l
30 IF l<1 OR l>8 THEN GOTO 10
40 tot=0
50 FOR n=&BE00 TO &BE27
60 READ a$:a=VAL("&"+a$)
70 POKE n,a:tot=tot+a
80 NEXT n
90 IF tot<>3319 THEN PRINT"Oh (Oh 7) t
  heres an error in the data":END
100 POKE &BE20,l-1
110 LOAD "!",&9600
120 CALL &BE00
130 DATA f3,21,00,96,11,00,a6,01
140 DATA 00,01,00,ed,b0,21,16,be
150 DATA 22,28,a6,c3,00,a6,af,6f
160 DATA 67,22,88,07,32,8a,07,3e
170 DATA ff,32,27,07,c3,00,06,4a
```

Now a proggyette from Justin for one of the few games that don't exactly need a volume control. It's that Paperboy thing. I wish ours was as quiet as this game is.

Anyways, here's both infinite lives and papers for the Disc version of Paperboy. For the boring old tape version, where it says "elite.bin", you just type "elite", OK?

Insert disc and run following progykin:

```
10 MODE 1:OPENOUT "d":MEMORY &2FF
20 FOR n=&100 TO &112
30 READ a$:POKE n,VAL("&"+a$)
40 NEXT n
50 LOAD "elite.bin",&300
60 CALL &100
70 DATA 21,09,01,22,7f,03,c3,00
80 DATA 03,af,32,07,19,32,ac,09
90 DATA c3,00,bf,4a
```

Deathride countermeasures

Wot the 'ell is Mounty Micks Deathride? Never mind, here's some inifinite lives for the tape version of it from Justin.
PASTE[R] or forward past first file etc. etc.

```
10 MODE 1:MEMORY &207F
20 INK 0,20:INK 1,6:INK 2,24:INK 3,0:B
   ORDER 0
30 PRINT"Dont worry!"
40 LOAD "!res"
50 LOAD "!",&6000
60 CALL &4E20
70 tot=0
80 FOR n=&C000 TO &C033
90 READ a$:a=VAL("&"+a$)
100 POKE n,a:tot=tot+a
110 NEXT n
120 IF tot<>5289 THEN PRINT"Whoops! Yo
    u'd better czech? the data.":END
130 LOAD "!",&2080
140 CALL &C000
150 DATA f3,21,80,20,11,e2,7f,7e
160 DATA ee,53,77,23,1b,7a,b3,20
170 DATA f6,21,00,00,22,b9,61,22
180 DATA bb,61,21,ff,9f,11,ff,bf
190 DATA 01,00,40,ed,b8,21,80,20
200 DATA 11,80,00,01,00,40,ed,b0
210 DATA c3,00,80,4a
```

The reason why I'm a bit slow typing at the moment is that the "O" key on the keyboard has been chewed off by Big Sol. So, every time I want to type an "O" (like then), I have to poke at it with a modified matchstick. It's called a poke-O stick. That was the second and last contribution to the O-pun University. Bye . . .

ACU

CAGE PAGE

The folk on Micronet chew the fat over a number of topics. Can you prepare mailboxes off line? What happens to a file when it is overwritten? Why does an h appear when you press j, k and l together? You too can join the fun, if you have a serial interface and modem. Call Micronet and type *cage# for Amsters Cage. PAUL NEEDS adds his own comments.

From Mr PS TROTT
SUN 12 JUL 1987 09:48

Is there any way that I can pre-write a MBX before logging on? I have a Pace V21/23 with Commstar.

Yes, if you have Protext, David Foster has written a program to do so. It uses Honeyterm, so you can't really see what is going on, but it works.

From Mr M T MURPHY
MON 13 JUL 1987 21:32

Is anyone else having problems with Locoscript 2, expecially with instructions to printer? And I mean the normal PCW printer. I've had a couple of odd things happen on several occasions, but the strange thing is that the fault (if that is what it is) doesn't seem to be consistent.

The first concerns a draft bold which drops the bold on second and subsequent pages, even though the bold is still clearly switched on throughout the document. The second is the occasional failure to obey the Abandon Printing command, and to resume printing with the same mistake (italic inadvertently left on) even after a corrective edit. Any comments gratefully received.

From AMSTRAD PLC
WED 15 JULY 1987 09:14

Could I suggest to these people that claim to have found bugs in Loco 2 that they phone Loco on 0306 887902?. If you just sit on them they will never be fixed. Cliff.

Sounds eminently sensible to me, Cliff!

From MR J H RAWNSLEY
THU 16 JUL 1987 19:29

I did tell Locomotive, but by post – and the reply is that the bugs are all known and the master discs should be returned for a free upgrade. The appearance of the Find/Exchange menu when three keys are pressed at once is apparently a fault of the PCW keyboard. Funny – it never happened with LS1. Signed, John

From AMSTRAD PLC
FRI 17 JUL 1987 18:03

John, I just booted old Locoscript, created a document and pressed Shift, K and L together. This did indeed produce the FIND menu. The reason is that the keyboard is a rectangular matrix and if you push three keys at the corner of a rectangle you automatically get a fourth.

Try JKL – where did that H come from? (Ian, here's a chance to try your editor, insert "keyboard is a" at the & above). The layout of the keys is designed so that you hardly ever notice the effect and this has been true since the 464 – try pushing JKL on that. It is also true on this PC. (I never touched the H, honest guv).

John is one of the few people I know who has spotted this effect and we've sold over 2,000,000 machines so I dont think it can be classed as an Earth stopping problem. Signed, Cliff

Satisfactory, Cliff? Gosh! Something free from Amstrad! Press three keys and get a fourth one free!

From VINCE MERRELL
WED 15 JUL 1987 18:16

Can I retrieve a file which has been duplicated on a PCW? For example, a file called CARDS.BAS. I saved a different file and called it CARDS.BAS by mistake. As far as I'm concerned, the original file has been overwritten. If anyone knows any different I'd be very pleased to hear their version of what goes on in my CF2s.

From AMSTRAD PLC
THU 16 JUL 1987 18:03

It depends on the software, but generally speaking, if I have a CARD.BAS on the disc then save a file of the same name, the old one becomes CARDS.BAK and the new one is CARDS.BAS. This is certainly true for things like MALLARD and Wordstar.

If something like PIP is used then you have to dig out a directory sector editor. There is a particularly good one called DU-V86.COM that is downloadable from Leconsfield. (Course, you do need to know a wee bit about directory structure before you can tinker with this sort of thing).

In fact I managed to ERASE *.* on user 1 of my PCW hard disc the other day, and found the program very useful indeed. As it happens I'm in the middle of writing a slightly more intelligent UNERAse program at the moment.

If anyone else has done this then perhaps they can offer a solution to the following problem. If you have two files, both called FRED.TXT, in users 3 and 7 and you erase both of them, what does the unerase program do when it finds there are two zero extents for the same file? And things get even more complicated if you have multiple extent. It's bad enough that the extents for one file are not necessarily in order in the directory so that you have to buffer references to all erased files, sort them into order then go through the list offering the possibility of unerase only on those that have concurrent extent entries. Oh well, no one said it would be easy! Signed, Cliff.

From VINCE MERRELL
THU 16 JUL 1987 18:32

File problem solved! I renamed the file on the disc and then used RESTORE.COM to restore the original file which still had the original name. It seems strange to me that the same bit of the disc was not used again when I saved the duplicated file.

From M SALLEH & R TOUW
THU 16 JUL 1987 06:49

Can anybody tell me if Rodos uses its own rom software and interface? It is possible that if anybody (464 owners)

wants to upgrade their machine by getting a first disc drive they can get it from Rodos as the Rodos interface is cheap. (£29.95 show price, normal retail is £35+) That means good news for 464 owners if it is true. Pity no CP/M implementation. Signed, Mohamed

I don't know, Mohamed. A good question and interesting possibility. Agree.

From MR A P KEELEY
FRI 17 JUL 1987 03:17

Rodos, as I understood, is only a rom. It can either directly replace the disc rom in the DDI/664/6128 or can be used in a rom box. Preferably the latter in the case of a 6128, as otherwise CP/M+ cannot be used. Signed, Andy.

Dave Gorski, who spent some time with the Rodos author, says "Yes indeed it is just a rom, but the black box which I was shown opens up other possibilities". There is a command to change the drive accessed by B, for example.

From VINCE MERRELL
FRI 17 JUL 1987 18:38

Thanks for the help Ian, Cliff, Paul.I don't want to appear a killjoy but good ol' Mallard has never created a .BAK file for me!! Maybe I've got a duff version with a bug?? It has occurred to me before that this is a smidgin strange but I've never had cause to worry about it before! Any ideas, Cliff?

The method I detailed for bringing back dead files definitely isn't 100%...it's only worked the once for me!! As for the .BAK files I'm flummoxed. Mallard certainly doesn't make a .BAK file if you erase a file or save a different program under a name already in the directory!

Maybe the old adage of a little knowledge is a dangerous thing or something to that effect, rings true after all! Signed, Vince

Vince, I can't speak for Mallard, but in Amsdos, the following happens if you erase a file, it disappears from the directory, but it can be unerased if you have not subsequently written to either that segment of the directory or any of those sectors of the disc which originally contained the file.

When you copy a new file with the same name as a file already on the disc, the old file is renamed 'filename.bak'. This can be undone by renaming one or both files. CP/M programs often have a flag which you can set to allow automatic look at your manual, pending authoritative advice from a PCW expert.

From ROBERT O'DONNELL
SAT 18 JUL 1987 12:04

The Keyboard matrix problems: this *should* be common to all computers, coz all computers use a matrix, but some manage it better than others that is, taking into account other keys that are currently pressed – two key rollover! Only if you deliberately look for a certain key will you get problems. (Beeb is like this JKL (No H!)) Signed, The Mad Sysop.

In all the time I've been working with the CPC, I've never had a key come up due to "matrixing".

From MR J H RAWNSLEY
SAT 18 JUL 1987 13:54

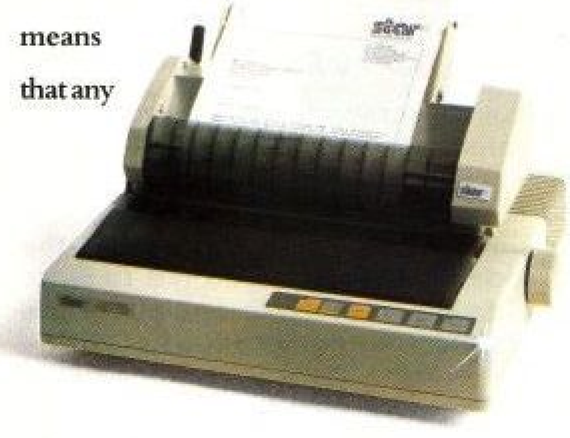
On page 314 of the Mallard Basic manual it says concerning SAVE: "If a file of that name already exists it is deleted". That seems pretty conclusive. Cliff, thanks for the explanation of the four key effect. I guess the reason it's taken since October 85 to notice it is that my typing is getting worse!

ACU

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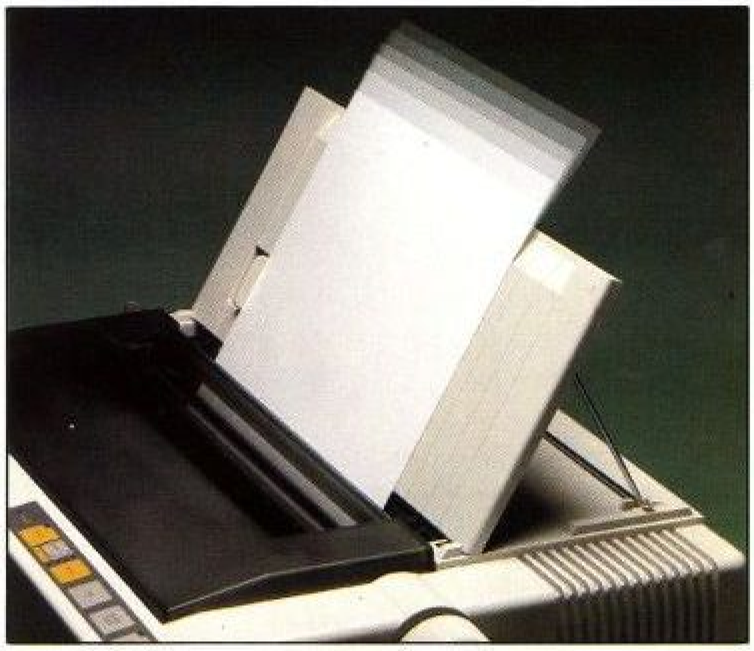


Star printer can be used with virtually any terminal or PC set up. And, equally important, the software command sets are switchable.

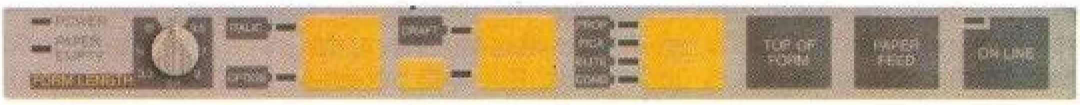
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Simon Rockman unlocks the Arcade antics of US Gold's latest game

GAMES which require you to think on the move have always been my favourites. I have often woken up to blame Boulderdash for the late night which left me only a few hours in which to sleep – I've even been known to get up in the middle of the night to play the game.

Now I've found something new to cause more sleepless nights. A game with all the same qualities, an equally cute character and even more fiendish puzzles.

Solomon's Key is a conversion from the Tecmo arcade machine. The Amstrad version was written by longstanding *ACU* contributor Chris Wood. His company Chameleon Software, was commissioned to produce the game by Probe Software.

The Amstrad version of Solomon's was written straight from the arcade machine, with the Spectrum version being converted independently. As all Amstrad gamesters are aware, this leads to the best end result, full size screens and better graphics.

Chris is a man who knows the CPC and it shows through in playability. This is a conversion with panache, right down to the anti-aliasing mode 0 character set.

From Chameleon to Probe to US Gold

Probe is Britian's best known conversion house, producing games for the big companies, like Elite and US Gold. Sometimes the games are written in-house, sometimes a programmer is found to produce the work externally.

This often means finding one person to design the graphics, another to code the music and a third to write the game. In the case of Solomon's Key, Chris Wood wrote the game with a little help from another friend of *ACU* – ZZKJ.

The music and sound effects were programmed by David Whittaker, who has done a good job with sonorous bells, atmospheric zaps and a couple of jolly tunes.

Into the catacombs

The plot casts you as an intrepid explorer, searching for Solomon's treasure. I knew that he was a wise king, but I had not been aware of any treasure until now. Still, I suppose it is fair to assume that a Middle Eastern monarch would have a few trinkets lying around.

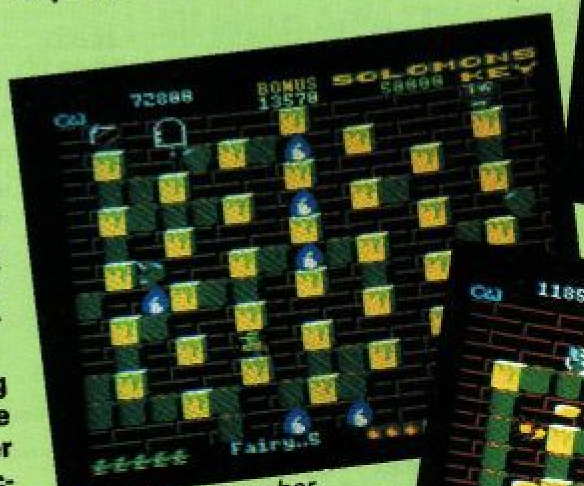
You are a magical explorer with the ability to cast spells. These usually manifest themselves by causing stone blocks to appear and disappear.

These blocks form your stepping stones, and by building a path to the gems you can negotiate the monster infested rooms. In addition to collecting treasures you have to pick up a key to open the door out of each screen.

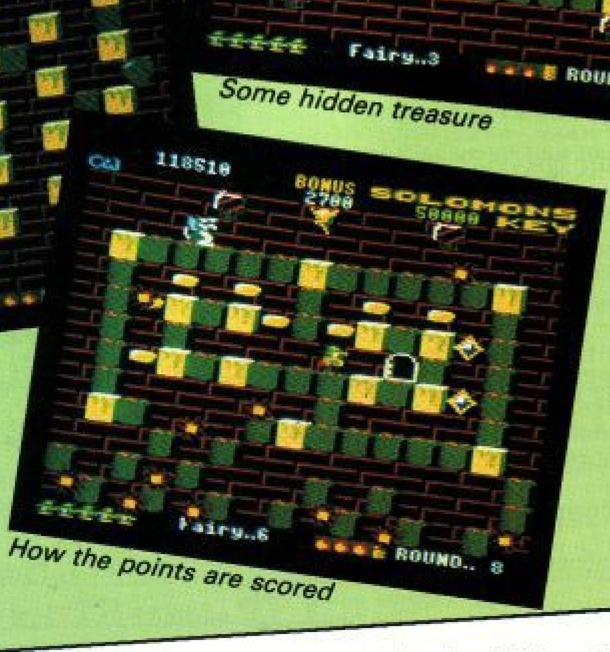
All this is done against the clock: The less time spent on each screen, the bigger the bonus. You will need to be pretty dexterous, and I would recommend that you put down the joystick and learn to play on the keyboard. For a better idea of what goes on in the binary world it is perhaps advisable to look at its denizens.



Some hidden treasure



The Secret Chamber



How the points are scored

The nasty dragons and ghouls appear from doors, strategically placed to guard keys and exits. Often they are just there to stop you from putting a block over the square.

A pretty feeble monster, easily avoided. These dog- like creatures usually occur in pairs. They are quite swift-footed but are usually located out of the way.

OK all you Ami Stewart fans, ring this bell and Peter Pan's little friend will appear. When you pick up the bell a fairy comes out of the exit door. Ten fairies give you a bonus life, but you need to catch her. You do believe in fairies - don't you?

The blue carp-like head projects from a wall and spits firebolts. Jolly vicious it is too. They cannot be killed so either run past very quickly, or build up a defence of blocks and get by while the blocks are being destroyed.

Fortunately there are few griffins in the game. They are nasty, shooting fire as soon as you appear a level above or below them. The monster will run towards you as it fires. The best way to deal with this foe is to destroy the block below it.

The first monster you encounter is the strong silent type. He walks slowly but steadily, marching up and down. If you place a block in front of him he'll punch it hard enough to destroy the obstruction with a single blow. To kill him you need to sweep the block from under his feet.



These can be stepped on. By casting a spell they can be made to appear or disappear in front of you, or by crouching in front and below you. Blocks can be removed by casting a second spell or by headbutting them twice. Treasures are often hidden behind blocks – it's worth removing some of the stones which seem to play no part in the game.

The exit is highlighted at the start of the game by a circle of stars. When you have picked up the key the door swings open. The higher the level, the harder it is to get to the door. If the sheet seems really easy then there are points to be collected before making for the exit. If you are killed after collecting the key the door stays open.

The blue, spike-like creatures run around the edge of the screen and ledges. They are very fast and extremely nasty. The movement pattern is totally predictable, so you can build traps for them, closing the top when they roll around. This is the key to level eight. Spikers can be killed with a fireball, but getting the ball and spiker to meet without getting killed is tricky.

You don't need to be 18 to get the key to the door. There is no difference between the round and square handled keys, but watch out for the magic blue key – cast a spell and some of the harder-to-get-at red keys turn Tory. This lets you into a bonus room, with more goodies to collect and more baddies to avoid.

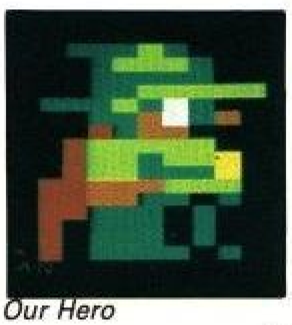
Your main weapon. Up to three fireballs can be carried. When you press enter or the second fire button on an adapted joystick the ball rolls around the edge of the screen and will destroy the first alien it touches. Be careful, they take a second or so to get going and only have a limited life. If the ball burns out before it hits anything your shot is wasted. Only one ball can be fired at any one time.



These are more powerful fireballs: They are not extinguished when they have killed a monster, but continue rolling around the screen until the ball burns out naturally. Both types of fireball are shown in your store at the bottom of the screen. The longer-lasting type are bigger.

A sparkling flask of liquid refreshes the parts other flasks cannot reach. It gives you an extra life.

The magic scroll is very useful, and incredibly rare. You only get a scroll by killing a monster, and the odds are 64 to 1 against. I've spent a week playing Solomon's Key and have only seen a scroll once. The powerful parchment extends you fireball carrying capability. Pick up one scroll and you can carry four fireballs. A second scroll (pigs might fly) would give you the maximum of five fiery shots.



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APPLICATIONS ADVICE

By DAVID FOSTER

This is the first of what I hope will become a regular column in which I will try to solve your problems and questions about serious software: Programs such as word processors, spreadsheets and databases and utilities. Please don't ask about games and adventures as they are already covered very well in other parts of the magazine, but more importantly, I am hopeless at them.

When you write, please give all the relevant details, but don't send discs or tapes. It is no good just saying "I use XYZ program and it won't print" – We need to know what model of computer and printer and the version of the program being used, as well as details of any accessories connected to the computer.

If you have any questions or problems, just write in to me, care of ACU and tell us all about it. If I don't know the program, I shall find someone who does. I cannot answer questions directly, so all replies will be through these pages.

To start the ball rolling, I shall answer one or two questions that have appeared in recent ACU letters pages. This month: Mini Office II communications, sending codes to the printer, and redefining characters using the >OC command in Protext.

Communications with Mini Office II

ACU has received numerous letters asking how to use the communications option in Mini Office II, as readers are experiencing problems using it with their Serial Interface.

The answer is simple, though not at all satisfactory. The comms part of Mini Office II can only be used with the original Amstrad RS232 interface, not the current one made by Pace, the earlier Pace interface or any of the others available.

The reason is that Mini Office makes use of commands which are only available in the original Amstrad SIO Driver rom. If you aren't sure which interface you have, try typing:

ROMCAT,–1

If you get a message saying "Amsoft presents" and a list of names, then you have the original rom and it ought to work with Mini Office II. If you get the message "Unknown Command", then you are out of luck, as you haven't got the required interface.

It is not even possible to get the necessary rom as a spare part. That would have allowed you to use a rom box and either the current Amstrad Interface or the earlier Pace Interface. If you already have either of these interfaces, there would seem to be little need to use the Mini Office comms program anyway.

Redefining printer characters

In a recent letters page, someone was having problems using the >OC stored command in Protext and thought there was a bug in the program. From his description, the problem was simply that he was attempting to use the command to do things it was never intended to do.

The purpose of the >OC stored command is to send printer control codes directly to the printer when the stored command is encountered during printing. The intention is to use it to send codes to change printer settings, not to output characters to the print head directly.

The advantage over using printer control codes is that there is no limit to the number of codes you can send.

For example, it is possible to redefine a number of the characters on most printers so that they will print characters of your own design. This usually requires you to send a number of codes to the printer to tell it the matrix (pattern of dots) you want it to print and what character you wish to redefine. You usually, have to tell it to copy the normal character set into the printer's ram, beforehand.

The reason the writer of the letter thought that there was a bug in the command is that he was attempting to send the matrix codes directly to the printer head. This will not give the required results.

In order to use >OC you have to use it on a new line. The upshot of this is the character appears at the start of the next line rather than where it was required in the text.

The correct way to produce your own characters is to use the >OC command to send instructions to the printer to redefine specific letters in the printer's own ram. When these characters are sent to the printer by Protext, the redefined character matrix will be used by the printer.

The majority of printers have at least some redefinable characters in their character set and the correct procedure is as follows:

First select a character to be redefined, which would not otherwise be used in the document. Then use the >OC command to send the codes required to activate the redefinable character set, and send the codes to redefine that character.

You can use as many >OC commands as necessary to redefine more than one character. When you want to use the redefined character in the document, you use the key for the character that you defined. This will appear as the original character on-screen, but when printed, the redefined character will appear.

Some printers have only a few characters which can be redefined. These are frequently characters such as the semi colon, colon and equals signs, which you might also want to use in the document. Again, there is a solution. These printers contain codes to turn on and off the redefinable character set, as and when required.

Having defined the characters with the >OC command it is necessary to define one of the unused printer control codes so that it sends the "on" and "off" codes for the redefined characters. This is done with the SETPRINT option to redefine the printer control codes. The codes for "on" and "off" should be entered for one of the unused codes and saved as part of the printer driver option.

Every time you wish to use the redefined character, wrap it with the selected printer control code, before and after. When the document is printed, if the character is found on its own, the normal character is printed.

If it is preceded by the printer control code, it turns on the redefined charac-

ter set and the redefined character will be printed, before the following code turns the set back off again.

For example, I use an Epson LX80, on which it is only possible to redefine the colon, semi colon, question mark, equal signs and the greater than and less than characters. If I want to redefine the = symbol to print a box with a plus sign in it, I use the following OC commands at the start of the document:

>OC 27,":",0,0,0 ; rem copy char set to ram
>OC 27,38,0,61,61,0,127,0,73,0,93,0, 73,0,127,0,0 ;+ codes

I redefine the printer control code v with SETPRINT to give :
27,37,1,0 for 'on' and 27,37,0,0 for 'off'.

To print the box symbol, I merely wrap an equals sign with the printer control code v. Justification is maintained and the correct symbol printed. Without the v printer codes, the equals sign is printed.

A similar effect can be achieved with Tasword by following a slightly different approach. You must select the "Into Basic" option from the menu, then insert a line or two of Basic, as follows:

```
5 PRINT#8,CHR$(27);":";CHR$(0);CHR$(0)
;CHR$(0)
6 PRINT#8,CHR$(27);CHR$(38);CHR$(0);CH
R$(61);CHR$(61); CHR$(0);CHR$(127);CHR
$(0);CHR$(73);CHR$(0);CHR$(93); CHR$(0)
;CHR$(73);CHR$(0);CHR$(127);CHR$(0);CHR
$(0)
```

This has a similar effect to the >OC commands in Protext, but will send the codes to the printer when Tasword is resumed with the RUN command. You also have to redefine one of the printer control codes with the on and off codes in a similar way to Protext, in order to be able to wrap the character as described above.

Apart from that, the operation is the same as for Protext. You may find that any right justification is spoilt as Tasword does not automatically make allowances for printer control codes when justifying text.

Sign of the times

Tas-sign is a program designed to create signs. The idea is that it can be used to create signs and posters in a variety of styles and sizes, which can then be printed on a dot matrix printer.

Running under CP/M Plus, Tas-sign is only suitable for use with the CPC 6128 and the PCW range of computers. The program was used on the 6128 for this review, though I also tried it on the PCW and there appear to be no differences.

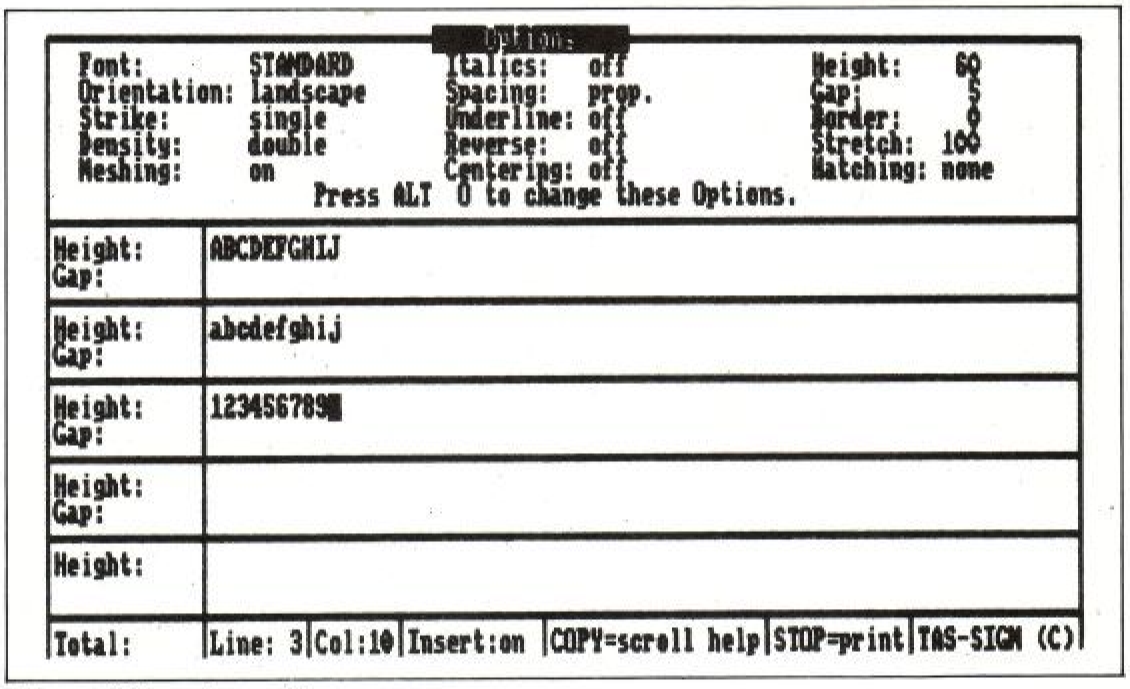


Figure I: Tas-sign options screen

You need a dot matrix printer which offers a graphics mode, which means most of the currently available printers. Tas-sign is supplied on a single disc and comes in their customary jacket, complete with a 30 page manual.

Documentation

The manual is clearly written, if a little strange in its order of presentation. It starts with an explanation of how to create a working copy of the disc then launches straight into a tutorial, with a recommendation to read the following two chapters for details of the commands.

A READ.ME file on the disc prints out five pages giving details of features not mentioned in the manual. Despite the order, it is clear, easy to understand and shouldn't cause anyone any problems.

Installation is simple, the contents of the disc are copied on to another disc and a configuration program run to select a suitable driver from a list of printers. There is an option to create your own if you are unlucky enough to have a printer not covered by the supplied drivers.

The display consists of a deep status window at the top of the screen showing global settings of all the options. These are the settings which, unless overridden by other commands, will determine the appearance of the final printout.

Help is available in this window by pressing COPY. The remainder of the screen is divided into thin horizontal boxes for lines of text. At the very bottom is a status line showing details of the line and column being edited.

In its simplest form, all you need to do is type in the wording you want on your sign, using a separate box for each line, then press Escape to print it. A number of text editing commands are available and anyone who is used to Tasword will feel quite at home.

The values of the global settings displayed in the upper window may be changed by typing Control+O, then moving around the options.

Settings which may be changed in this way include the font (style of lettering), the height and width, whether solid or hatched (patterned) letters, left, centre or right justified text and whether it should be underlined or italicised.

You may print either across or sideways down the length of the paper, which allows larger signs. An option mentioned in the READ.ME file, provides a mirror image.

The density of print out may be varied by selecting from single or double strike, single or double density. There is also what is referred to as meshing, which is one or more further passes over the line, filling in the spaces between the dots already printed. The denser printouts give the best results, but take considerably longer to print.

Interlocking letters

Spacing between characters may be Constant, Proportional or Kerned. With Constant spacing, the letter l, for example, is very much narrower than m, but occupies the same character width as any other letter.

With proportional spacing, allowances are made for the differing widths of individual characters, so that the space between each character is the same.

Kerning goes a stage further and

makes allowances for the fact that certain characters, due to their shape, may actually overlap each other without touching. An example of this is the combination of A and W.

When kerning is in operation, those characters which might happily overlap without touching are closed up. This usually gives the best results.

As well as the global settings, it is possible to specify the height of individual lines of text by typing Control+H while editing text and specifying a dimension, which will then be used from that point. The gap between lines may also be specified in the same way, by pressing Control+G.

All dimensions in Tas-sign are specified in terms of the number of dots that will be printed. For example, on the CPC the maximum number of dots height on one pass of the printer is seven dots, so a height of 63 would give a letter of a height equivalent to seven passes of the print head, with the paper just advancing enough to clear the previous line. The actual dimension will vary a bit with different printers, but on an Epson LX80, a setting of 60 gives a character height of about 1.5 cm.

In addition to the global settings described above and the adjustments to height and gap, it is possible to set some, but not all, of the remaining options in the course of a line by means of embedded commands.

Embedded commands are instructions which are typed in at the same time as the text, but which, when recognised by the program are acted on as commands, rather than being printed as text. The way that Tas-sign recognises an embedded command is by it being wrapped with backslash symbols (The key immediately to the left of the right hand shift key). For example, the embedded command to turn italics on is 'I+' and off, 'I–', so that typing:-

"The word after the command is \I+\Italic \I–\but this isn't."

would have the effect of putting the word *Italic* in italics, whilst the remainder of the line would be printed in the current character set.

The main features which may be changed in this way are the fonts, italics and underline, kerning, hatching and the alignment of the text to left right or centre.

Every silver lining has a cloud

So far we know how to use Tas-sign, but we still don't know what it can do and what its limitations are. Well there are a number, many of them brought about by restrictions caused by the printer. The maximum width that can be printed is determined by the number of dots across the paper that can be printed in by your printer. Typically this will be from 480 to 640 dots. This affects the maximum width of the text when in Portrait mode and the maximum height of the characters, or number of lines when in Landscape mode. When in Portrait mode, you may have to juggle height of character against width in order to get the words you require on the line.

There is also a recommended minimum size for the characters. Results using dimensions down to about 20 can be used with some of the fonts, but the results may be unpredictable. Below 60 dots Tasman don't guarantee the correct appearance of the characters, though in many cases the result is quite acceptable.

The largest size of character I managed to print in Landscape mode (down the length of the paper) gave characters about 14.5 cm. tall. The best feature about Tas-sign is that unlike most programs which give more jagged letters the bigger they get, there is no sign of this and all characters are well rounded and diagonals are about as

Figure II: The largest and smallest – recommended sizes

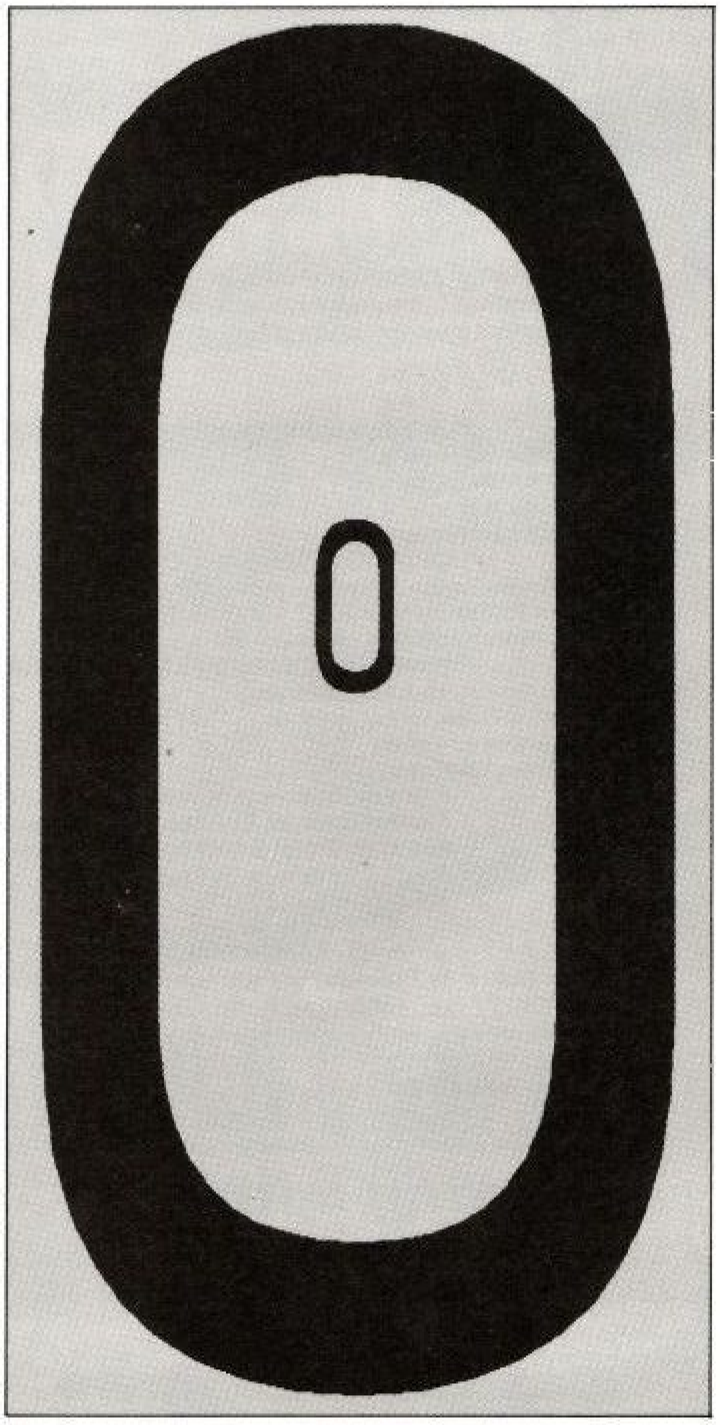
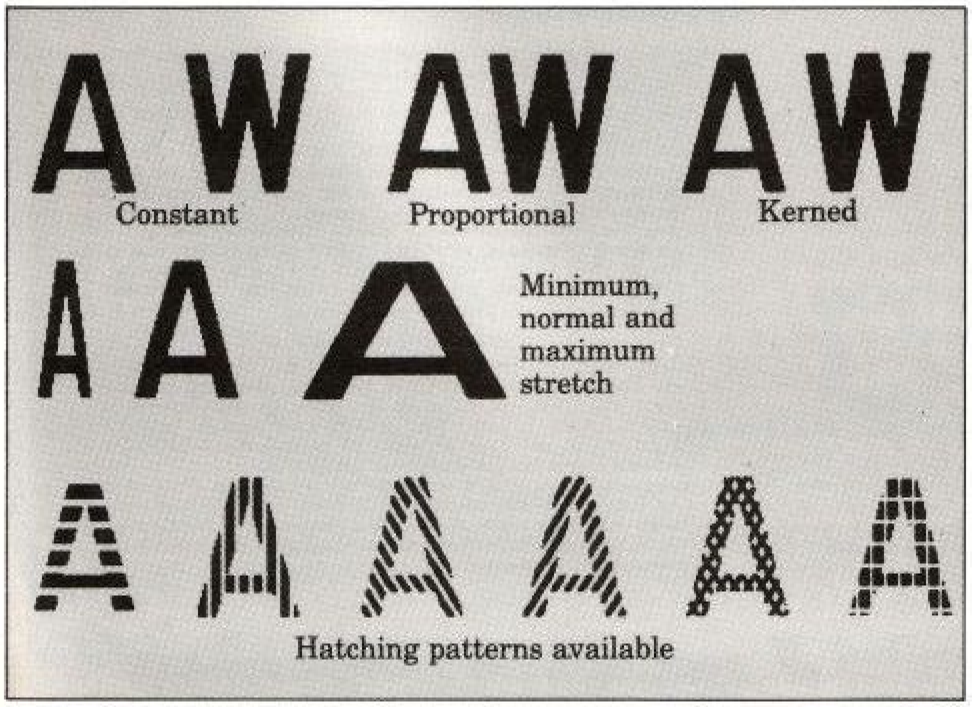


Figure III: Type styles



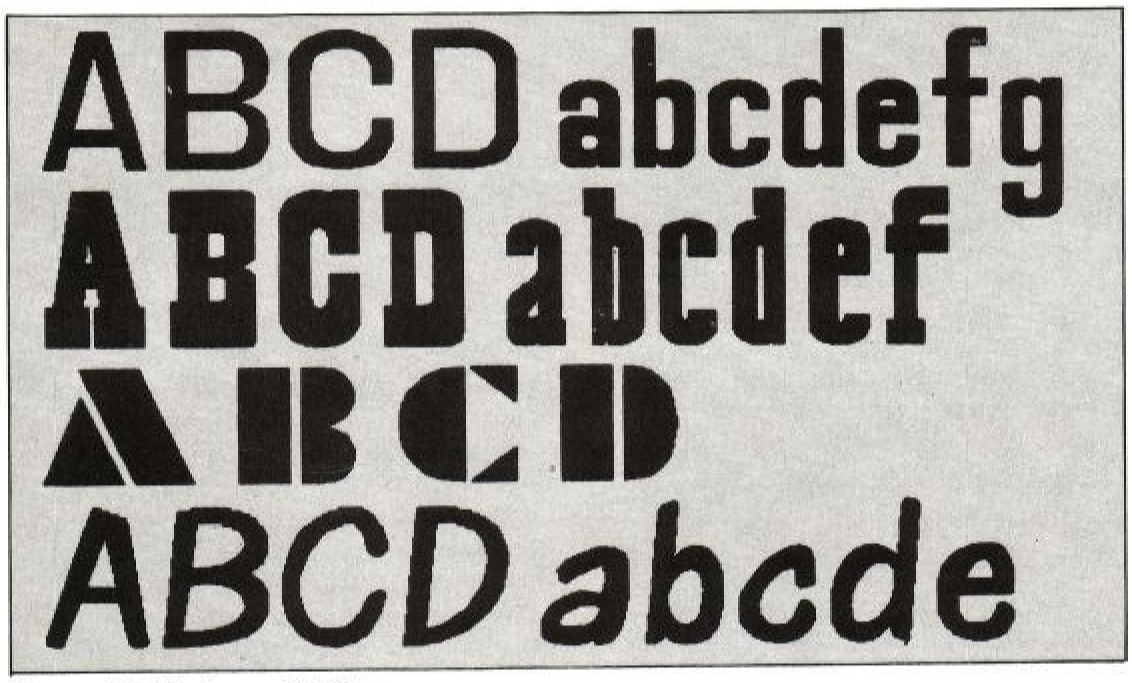


Figure IV: Fonts available

straight as you could hope to get with a dot matrix printer.

At the moment, another restriction is that Tas-sign is supplied with only four different fonts, although any of these may be used in normal or italic form, black on white or inverse, solid or filled with one of a number of patterns and the height and width may be adjusted. Apparently it is not a practical proposition for Tasman to supply a utility program to enable you to create your own fonts, due to the complexity of the process, but I gather that alternative fonts will be available in due course.

The program is fairly well presented, but somewhat slow to write to the screen. You seem to wait ages whilst it draws the editing screen. It is also a little untidy in places, with incompletely drawn lines and when first loading, the messages and information cause the screen to keep scrolling up, which makes it difficult to read what it says.

In my opinion it displays far too much information on screen about what it is doing at each stage, all of which must contribute to slowing the program down.

I encountered one or two slight inconsistencies with the character sets, but understand that these have all been corrected in the current versions of the program.

If you need a program to print out signs and posters and don't require it to do anything else, then Tas-sign is what you are looking for. The end result is excellent and would be hard to beat.

That's all for this time, as I have run out of space. I hope to answer one or two questions about the Masterfile Database in the next column, but in the meantime, put pen (or printer) to paper and send in your problems. ACU

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Seek and ye shall find..



LAST month we looked at Incentive's first Double Gold package – The Mountains of Ket and Top Secret. This month we can go further along this golden trail with the second release: Black Fountain and Sharpe's Deeds. Both are written by Linda Wright, a new name in the field of adventures. From these initial offerings, we can only hope she grows like the proverbial acorn and becomes a regular and worthy purveyor of what we like. Both games are fairly logical, not too difficult and should give both newcomers and more experienced players a good run for their money.

Black Fountain is in two parts, each with over 50 locations and a host of items to examine, pick up and use. The action takes place on another world that has a less involved way of life than our own. The level of technology is probably equivalent to our middle ages, and magic still has many years to go before cynicism and science will overcome its potency.

The kingdoms are loosely ruled by High Chancellors. They respond to potential threats by acting on information from their Chief Officials, who are scattered about their lands. Aguna is the High Chancellor in the city of Loesp in the kingdom of Espadis. Under Aguna's rule is a Chief Official called Istanus, who is forever calling for help. Just like the little boy who cried Wolf too often, Istanus' pleas for help are not always treated with the seriousness they deserve.

You play the part of Shardor, a minor official in the Court of Loesp. Your three older brothers have been sent to Istanus to investigate rumours of contamination of the river Ist. It is thought that this is caused by Abhaldos, an evil eccentric, who lives in the far north of the realm. Nothing more is heard of your brothers and the situation is forgotten – until one day an urgent message arrives from Istanus...

Now is the chance you have been waiting for, the stage is set, the die is cast etc. etc. You offer your services to Aguna, and to your surprise they are accepted. Your quest for Abhaldos, his evil Black Fountain and your missing brothers has begun!

Normal Verb/Noun inputs will suffice for most of your journey, but more complex or specific commands (such as HIT DOOR WITH STAFF) may be required on occasion. You may use IT to refer to the last noun used and multiple inputs are accepted if they are separated by AND, THEN, a comma or a full stop. Sadly the interpreter will not recognise ALL (as in DROP ALL).

There is plenty to find and a recurrent type of puzzle in Black Fountain is finding the right object to give to the right character. Fortunately you can carry quite a number of items, so the red herrings will not cause you too much trouble. Likewise there is plenty to examine, so keep your eyes peeled and check everything carefully. You can interact with most of the people you meet - try the messenger in scene one for starters. At first, many of them just shrug their shoulders and say nothing. But, if you have some money and something they need, they become more than helpful.

There are several actions you can take that lead to

an untimely demise, so a regular saving is the order of the day. Make sure though that you only try and load back in data from the appropriate part – otherwise you may find yourself carrying some strange things and the program may crash.

To move on to the second part you need to learn the passwords given as you open a door hidden behind a cuddly bear in a cave in the Norst Mountains. To succeed in part two, five objects are needed from part one (in addition to clothing). As you will not be given the passwords unless you have the correct items make a note of where everything is – at least that makes it easier to go back to the missing odds and ends.

The second part follows the pattern of the first - having the right things at the right time with death always just around the corner. Stay alert, examine everything and I'm sure you will succeed where your brothers failed.



Last will and . . .

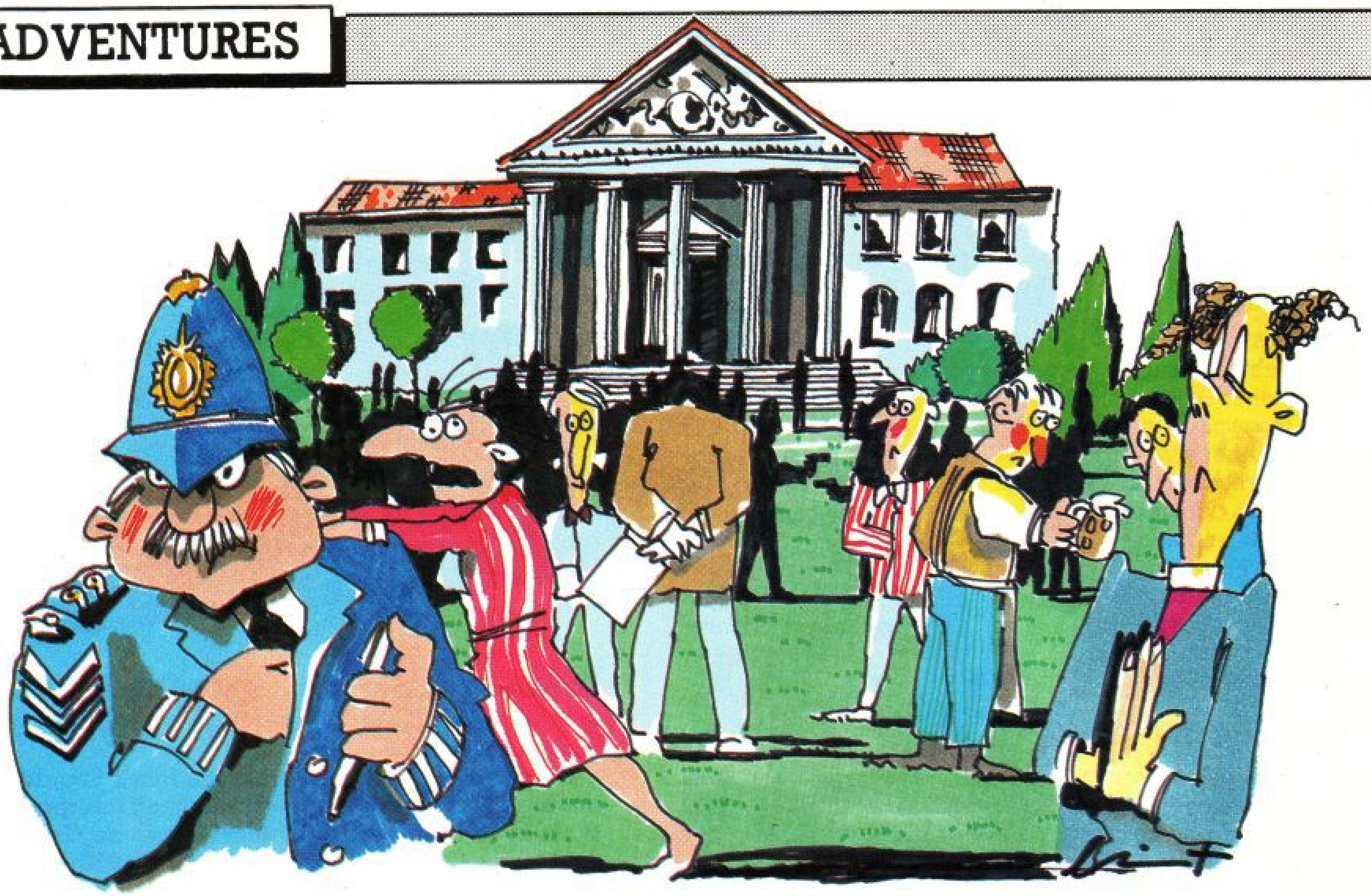
Sharpe's Deeds is not a particularly novel plot, but the story hangs together well. And, like the Black Fountain, there are plenty of places to explore and interesting objects to find. You play the part of a great nephew (or niece) of recently deceased Ferdinand Sharpe. You are named in the will as the sole beneficiary to his estate, but of course there is a catch. You must first find a dozen special treasures and Great Uncle Ferdy's Deeds before you may inherit the rest.

The action all takes place in and around a village in Somerset. There is the village pub, the village pond and the village green. If the locals talk to you, they use that quaint "Err, Arr" dialect that really only seems to be found on postcards and the telly. There are angry swans and bulls, and several devious puzzles that may require a bit of word searching to find the right action verb to bring about the desired result.

It's a shorter adventure than the Black Fountain, but constructed with the same command interpreter: Both have been written using Incentive's Graphic Adventure Creator. The problems you will meet are slightly more tricky and if in real trouble, Incentive will send you a hint sheet on receipt of an sae. If you do resort to this - get someone else to read the clues for you.eceipt of a stamped addressed envelope. If you do resort to this - get someone else to read the clues for you. They are rather explicit and could well tell you things that would spoil the rest of the game.

Let's hope Linda can keep up with the need for good adventures and give us a few more in the future. I wonder if her style will change? So far the watchwords must be – examine everything and be generous to those you meet.





Dirty work afoot

A few months ago we had a preview of Melbourne House's latest adventure - The Mystery of Arkham Manor. Well, now we have the real thing. Melbourne's adventures often break new ground and this is no exception. It is an ambitious program with moving graphics and everything controlled using a system of pull-down menus. This alone is nothing new, but add other features of the game and if they all work smoothly, they could have a winning system.

The inlay calls Arkham Manor a detective thriller. You stand in the shoes of a newshound of the 1920s, working as a freelance reporter for The London Chronicle (published daily and costing just one penny - an old penny too, none of your decimal rubbish). The paper has had a letter from one of its regular contributors about peculiar happenings in a country village called Arkham. Normally the paper takes such letters with a pinch of salt and files them – but as the writer of this one is well known to the paper, they decided to take it seriously.

You arrive in Arkham knowing no more than the above, it is up to you to ferret around and produce the scoop that has yet to be unveiled. The Chronicle is leading the way with its new fangled photography machine. This is a portable plate camera that is now issued to their top reporters and comes complete with three reusable plates. Due to its bulk it cannot be used above head height – so look for low to middle level clues.

The screen has a number of windows. At the top is the graphics window, displaying the location you are in, together with an animated picture of you and anyone else present. To the right of this is the command window that lists the options available: Move, get, drop, say, examine, use, give, read, camera, report, notebook and system. The cursor keys will control a highlight bar, that is moved over the options required. Pressing the spacebar will implement the option selected and call down an additional command window if needed. EXAMINE will display objects at a location that can be examined and MOVE will highlight the direction arrows displayed at the bottom of the screen – the appropriate cursor key will then move you in that direction.

Objects that may be picked up are shown graphically just below the graphics window. Beneath these icons are the three camera plates showing the photographs you have taken. Beneath these again is today's date. To the right is the information window that displays the responses to input commands, any other pertinent events and also any speech you enter via the SAY command.

Finally at the bottom of the screen are the arrows showing possible directions of movement and also a moving sun/moon depicting the passing of time. This may all sound rather complicated but the layout is logical and easily understood.

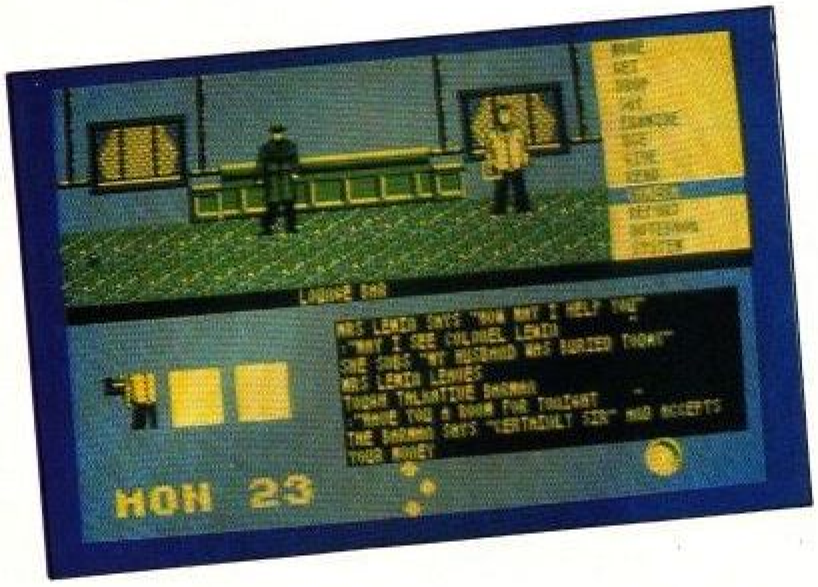
The game is in two parts: A saved position is necessary to enter the second – and of course you must be sure you have learnt all there is to learn from the first. There are more than 50 locations in the first part and each of these must be investigated thoroughly.

There are a number of people to interview and the passing of time also plays its part. The local inn locks up at night, so don't expect to find a bed after closing time. Objects to be found will vary as time passes, so expect a long investigation as you first determine what and who is going to appear – not only where, but when.

Most of the command options are self explanatory, but some are unique to this adventure. Choosing CAMERA produces a small square cursor that can

be moved across almost the whole width of the graphics screen from knee to shoulder height. Pressing the spacebar will capture a somewhat larger picture than represented by the cursor, and place it in one of the photo frames below.

REPORT provides a full screen window on which you can create a story for the newspaper – for which you get paid. You may create headlines, text and incorporate any photos you may have taken. When



you are in the local telegraph office you can use REPORT to send a telegram to request information from the Chronicle files on people or places.

NOTEBOOK provides four pages on which you can make notes of your investigation. These appear as a window to the left of the information panel. Check your notebook when you start playing for any notes you have already written. These can be saved to cassette independently of the normal "save game" facility. Notes and REPORT stories can also be printed out on an Epson compatible printer.

SYSTEM simply offers you the options of SAVE/LOAD a game position or to quit and start again. EXAMINE, in addition to letting you examine objects at a location, also has a STATUS option. This pulls down yet another window that graphically depicts the money you have left, the knowledge you have gained – and the state of your sanity.

Descriptions of your location are entirely graphical, so it is important to EXAMINE at every location. This will draw your attention to any specific features – they may, or may not, be significant.

Conclusion

This is a very ambitious program, offering a range of actions that few other games previously attempted. The mystery itself is not easy to solve as there are so many variables. But apart from the difficulty of learning what is happening where and when, there are also some problems in interacting with the game.

For a program that is trying to eliminate the keyboard, it is surprising that there is no joystick option. Using the cursor keys and spacebar is a reasonable alternative, but their operation is not as smooth as it might be. Obviously the program is quietly chugging away to itself while you are thinking what to do next. Time is passing, characters are moving and various actions out of your sight are taking place. In between performing these actions the command window also has to be scanned to see if you want to do anything.

This multi-tasking means that the program may be doing something else at the moment you ask it to perform an action. Often you will have to press a key several times to get the cursor to move. This is not a major problem, but it does become very frustrating after a while.

Select SAY and you have to enter what is to be said into the information window. The letters you have keyed in may not appear, so you may find you have typed incomplete words.

Or, as the keyboard repeat timing has been altered, you may find things have been accepted a little too well and instead of one letter you have two. Either way you now have to delete back to the error and type the rest in again. The delete key works in the same manner – it may or may not work first time.

Communicating with the characters you meet would appear to be important, but is a very time consuming and frustrating business. Needless to say, the responses you get are keyed to your questions – quite rightly too – but hitting the right question or key word seems a little difficult. The barman in the village inn is said to be a talkative fellow, all I can say is that he must have been suffering from laryngitis while I was there.

Your aim in the first part is to find a way of getting past the invisible barrier that prevents you entering the grounds of Arkham Manor. After that your guess is as good as mine. The concept and story line for this program are excellent. The marks I have given it reflect my frustration with the inadequate (or over-ambitious) programming - which I feel must eventually affect the player's level of addiction.

Next month

There seems to be a growing range of cheap adventures appearing on the shelves. Some of these are older games that enterprising computer shops have managed to buy cheaply. Others are due to Incentive Software's Graphic Adventure Creator, that has encouraged many potential adventure writers to actually produce commercially finished products.

Next month I will look at several of these cheapies. Keep your eyes peeled and examine everything carefully at YOUR local computer shop – you never know what may turn up.

	RATINGS		
	Black Fountain	Sharpe's Deeds	Arkham Manor
Plot	66	62	75
Atmosphere	67	65	75
Addiction	73	70	55
Difficulty	60	62	75
Overall	68	66	66

ACU

Firebird's fortunes

Small may be beautiful, but is big necessarily ugly? Jerry Muir visited a subdivision of one of Britian's largest corporations to find out.

WHAT happens when a huge corporation gets involved in a bright, new, growth industry, such as computing? Is big money behind the software a guarantee of success . . . or will the faceless bureaucrats foul up in a market that they just don't understand?

"This is a market where you have to be very flexible – where you have to respond to trends. And you can't always respond in a way that corporate thinking would like you to respond. There's always going to be conflict when that happens and that conflict is very, very difficult to deal with".

Tom Watson pauses for a moment. He knows all about the potential for tension – he's in charge of marketing for Firebird and Firebird Gold, both owned by communications giant British Telecom. But instead of launching into a tirade against his big business bosses, he smiles.

"One of the nice things about Telecomsoft is that we're very autonomous. We're very well run, we have a very good management structure of people who understand the job. They are BT corporate people, but they understand what we are doing and they let us do what we think is right".

So how did it all start? Shouldn't BT be concentrating on giving us a better phone service instead of diverting us with games?

"British Telecom is divided into five major divisions, one of which is British Telecom Enterprises, which involves itself in new areas of business. Now one of the divisions of British Telecom Enterprises is New Information Services which is a sub-division of yet another division".



Part of Firebird's West End offices

It sounds like a classic recipe for corporate thinking so far, but eventually we reach Firebird.

"New Information Services has a brief to investigate areas of information technology – things like Micronet, MUD – Multi-User Dungeon, and Telecomsoft, which started a couple of years ago, under the auspices of a guy called James Scoular. The first release was Gyron – the second was the famed Elite".

Not a bad start and press coverage was guaranteed – Elite was already a classic on the BBC and Gyron had a tie-in prize of a Porsche. But soon after the high profile launch, tragedy struck.

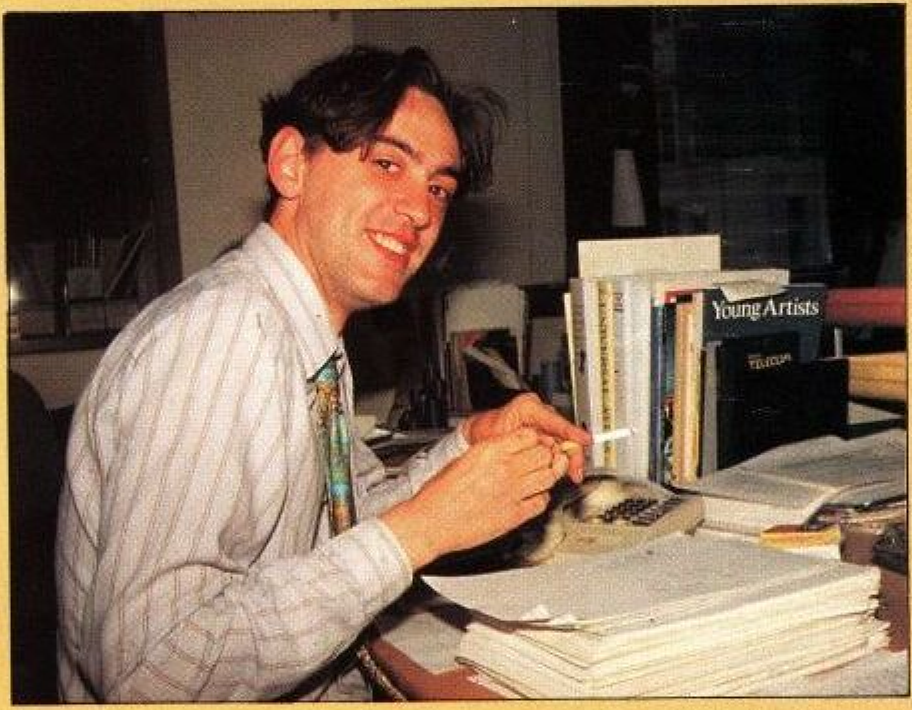
Despite being a young man, James Scoular died suddenly, leaving Tony Rainbird, Herbert Wright and James Levy to run the company between them. James moved on to another area of BT within months, then Tony went off to found Rainbird, leaving Firebird under Herbert's control.

Three way split

At this stage the label was divided into three areas. Gold included products like Elite; "A tradition that continues with products like Cholo," according to Tom.

"Then there was The Hot Range, which was supposed to fill the mass market gap – £7.95, fairly simple products but well-programmed, well-executed and well-presented. But for a number of reasons it never really worked".

One of these reasons could be that the first of the four releases, Rasputin, was fiendishly difficult. "A brilliant game, but nobody knew how to play it". Tom grins. "It's soon to come out on Silver though", he adds, making it a



Herbie Write keeps Firebird flying

good bargain. (Note: The Amstrad version was written by Paul Hibbard who is now the boss of Rainbird).

While it's possible for Firebird full-price products to appear on the budget label, Silver is now run as a separate entity. "It probably suffered from being too closely involved with the full price range. So they redesigned it and put a lot more effort into getting a broader range of software. Then a guy called Chris Smith took it over to manage it autonomously".

But that still hasn't explained how Firebird manages to retain its own personality when it's part of such a vast combine. Tom disagrees with the basic line of reasoning, that it's an impossible situation.

"People see Firebird and the large corporations in terms of what was just a couple of years ago presented to the world as a cottage industry with all these whiz kids who were all going to set up their own companies and all drive Porsches. Most of that was hype.

"Imagine was responsible for a lot of it. They'd hire Porsches if the TV cameras came. These programmers would be on six or seven thousand a year, but they'd be given a Porsche for the day just because the TV cameras were there.

Growing up

"The industry held a sort of naive charm for many people. It was the individual struggling against big business and making a buck – all those wonderful Thatcherite ideals of small businesses and things like that. That's fine, but it was always going to be the case that other people would get involved in it and the large corporations have the financial and personnel resources to do it properly".

Not all the corporations who came into this fresh, young industry have flourished. There was Thorn EMI, for example. Others have hung on; Virgin, Argus, which is part of a large publishing group, and Ariolasoft, part of a German combine, are just three.

But Tom believes that it can be difficult for these large companies to succeed. "Part of the reason is the strictures placed on the software divisions by their overlords. But, of all the large corporations in the software market, I think we are the most successful."

Still, despite sympathetic management, there are some odd constraints, such as the plush, first floor offices overlooking New Oxford Street in London's West End. "These offices are hideously expensive, but because British Telecom has its own ways of accommodating its assorted businesses, we have to have them.

"We can't wander off and do our own thing and that makes some of our costs quite high. But it's a tiny, tiny thing – it probably makes a difference of point one of a penny to a £25 game. It's a minor stricture which doesn't affect us that much. We really do quite well within a corporate situation".

Noticing the two PCs sitting on a nearby desk, I suggest that one advantage must be that they can buy whatever hardware they want. Not so, says Tom.

"People often see companies like Telecomsoft as having open chequebooks. They see it as guys in blue suits sitting in anonymous offices saying, 'We'll keep on writing cheques until we've succeeded'. But you can't just buy yourself into an industry like this.

"If we need a piece of equipment, yes, we can go and buy it, but we've got to pay for it at the end of the month – and the only way we can do that is by selling units". To adapt a popular proverb, there's no such thing as a free Mac, – even in BT, it seems.

There is structure

The need to pay for its office space and equipment hasn't stopped Firebird growing into quite a complex structure itself. As well as software development there's production, marketing and sales, which has to cope with both England and the rest of Europe.

The task of keeping all these elements working together falls on the shoulders of Herbert Wright, who faces such brain-bending problems as a European sales department almost entirely populated by people called Jane! There's also a Sue in there, but Tom tells me that they're trying to persuade her to change her name by deed poll.

Despite the potential for confusion, European sales are very important to Firebird. Exports to the States are handled by a separate division, Firebird Licensees, based just outside New York. This is obviously another advantage of having an international parent company.

The international interchange works both ways, and more and more software is being written overseas, in countries as far apart as Finland and Spain. Even Hungary is getting in on the act with the ever-busy Andromeda development team. Recent Amstrad release Kinetic was programmed in Berlin and Mystery of the Nile, a forthcoming title has Hispanic origins.

Mystery will sell under the Firebird banner, which flies over the £7.95 titles. "People can look forward to a wonderful arcade-adventure", Tom promises. Meanwhile the next current Gold release is Cholo, and Tom says that, "It epitomises the Gold tradition."

It's a vector graphics game, set in a deserted city after the atomic holocaust, where you take on a number of increasingly powerful droids. The game comes complete with a novella, which made me wonder if there was ever rivalry between Firebird and Rainbird for the top titles. Isn't it a bit irritating to have a label just down the corridor which is constantly laying claim to state-of-the-art programs?

Rain and Fire

Tom assured me that any rivalry is on a friendly basis. Allocating programs is determined by the format of the original version. Rainbird takes the ST and Amiga titles, while Firebird sticks with 8 bit, apart from the PC.

Any 1512 users out there should be glad to hear that the classic Elite is



Tom Watson - marketing supremo

about to appear on their monitors, around September, in a conversion by Real-Time, who wrote Star Strike II.

September is a very important time in the computer industry, of course, because that's when the new products are rolled out for the PCW show. Tom says that, "There are a few changes on the way, but we can't tell you about them yet".

Despite trying everything from bribery to threats, he refuses to say anything more, but my suggestion that they could involve a new price structure seems to hit home. But don't expect Firebird to take the path towards the fiver game that some people are following. Tom holds strong views about this latest development in software.

"These people are, not putting too fine a point on it, cutting their own throats. And they're not doing the consumer any favours either.

Okay, if you drop the price to £5.95, or even £4.95, you're giving the consumer a cheaper product. It's not in the budget area, it's still full price, but it's cheaper. At that sort of price point it competes directly with records and other areas of leisure spending.

"That, on its own, is a valid point. Another argument is that because of the budget phenomenon there's a natural tendency towards lower prices. Again, just taken on its own, it has a certain validity. But I believe that it's a limited view.

"Taking the price down to give the consumer a better service is pitched towards the pocket. Competing directly with other areas of consumer spending, doesn't hang together".

Tom then went on to explain how reducing prices means less money for the retailers. "The multiples – the Boots and the Smiths – make their profits per inch and per foot of shelf space.

"If they make less profit they'll become less inclined to stock a wide range of products. They'll only stock a top 30, say, or they may well crop the space down to a top 20, or even a top 10".

Another effect could be to cut down on the number of stores carrying software. "In either case, that's not giving the consumer a better service.

"The second point is our own investment in the product. Time is money. Programmers are becoming more and more sophisticated; they work on larger development systems and push the boundaries of programming in games like our own Sentinel, or even Thrust on Silver.

"People don't just sit down with an assembler and knock these games together in a matter of weeks. If you take away the investment you take away the time that you've paid for. Which means that if you're developing a product, suddenly you find you can't afford to develop it over four months because the money won't allow it. You can only develop it over three".

But surely lower prices will increase sales and profits will remain the same. Tom's already thought of this one.

"There's so much software out there that there isn't the market to take it all. A drop in the price point won't increase sales because there's too much competing". All in all, Tom puts down the move towards lower prices as a move of desperation and an inability to work well in the traditional price points.

Future products

So, we won't be seeing Firebird products at a cheaper rate, but what will we be seeing? Well, in addition to the other titles, mentioned above, there's the company's first arcade license, the highly addictive Bubble Bobble.

Shoot-'em-up addicts should chase the Flying Shark, with its simple weapons exchange system. There's more arcade adventuring when you light the Black Lamp and play a jester. It's being developed on the ST with a conversion for the CPC by Software Creations.

The programmers of Black Lamp also worked on Star Trek, one of two long-awaited Mike Singleton titles, the other being Dark Sceptre. They've been in development for so long that they're gaining an almost mythical status. Tom promises that they are on the way.

"Dark Sceptre has presented the programmers with enormous difficulties. We're still not quite there on the target machine, which is the Spectrum". The adventures of Kirk and Co. have been developed on the ST, but they're causing even bigger headaches in scaling down to 8 bit. "There's a new development team who started a couple of months ago and they're very confident after a full feasibility study".

I couldn't help wondering whether all this meant that Mike Singleton is designing beyond the capacity of the Z80 and 6502 processors. "Star Trek was beyond the capabilities of the Amiga", Tom confided. Even Commodore's miraculous micro couldn't provide enough processing power for the original spec.

The problem was the revolutionary Multi-Vision technique, which was to have provided one main screen, surrounded by smaller windows which could be pulled into the area as required. Unluckily things overreached themselves when they tried to keep the action going in the small windows, and now only the main areas will be "live".

Tom can't promise that the program will beam up in time for PCW – but he does promise that they won't re-use last year's USS Enterprise-styled stand at the show. So what will they be showing? That would be telling, but you can be sure that it will hold some pleasant surprises.

Back on sunny Oxford Street I was still wondering about Firebird. Yes, it is different from those long-established "cottage industry" companies, and perhaps it does present a more anonymous face to the public. But don't make the mistake of thinking that Firebird's manned by middle-management zombies.

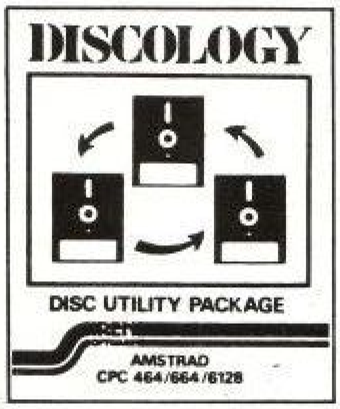
The atmosphere in the offices is keen, and the plush surrounding are cluttered with all the paraphernalia that you'd expect in a lively software house. There's a sense of enthusiasm, a belief in what everyone is doing, and an undoubted desire to put out great, innovative games.

This is certainly one Firebird that has risen from the flames of a corporate background.

ACU

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A is for Amstrad, B is for Binary

C is for programming with

Rupert Goodwins looks at the trendy language in the mainframe world as supplied by Arnor for CP/M Plus.

COMPUTER companies sometimes generate a loyal following, as you are no doubt sick of hearing, Arnor has a special place in most CPC owners' hearts. This review is being written with Protext on a CPC664, in preference to an 80286 IBM compatible with a £450 word processing package, so they must be capable of doing things right.

One would hope that their C, which runs under CP/M+ on suitable CPCs and all PCWs, would be done right. But C is a language which can be got radically wrong. And the winner is...

Let's talk about C a little first. It is usually a compiled language, which means that a program is written using a text editor first, then turned into a runnable form by the compiler. CPC Basic is interpreted, which means that it is turned into a runnable form and run at the same time, every time. That's slower but more convenient for beginners and those who write small programs, who would find a compiled language both overly complex and unwieldy.

C GAINS a lot of flexibility from being compiled. It was designed (a fact that newcomers to the language find difficult to believe at times) to work in a similar way to the computer itself, but expressed in a form that programmers could understand without them having to learn the details of each separate machine.

The way it stores information, the ways in which it passes data around and the methods used to loop and make decisions all have close parallels in the internal workings of most computers, if not programmers.

COMPOSING a C masterprogram takes time. With Arnor C, as with most Cs on most computers, the program goes through various stages on its way from brain to CPU. It starts out in a text editor (where it's called the source code), gets compiled to an intermediate form (the object code), and then gets linked up with various bits of machine code to form the final hunk of code that the computer runs (the executable image).

Unlike other Cs, Arnor C does this final stage every time you run your program, using a special interpreter. It's thus that exotic cross between normal compilers and interpreters, a semicompiler.

Semicompilers are exciting beasts. A significant acreage of computer science journals has been devoted to this subspecies, but for the CPC owner it can be described as producing code that is slightly slower than pure machine code.

For large programs, this code can also be smaller than the equivalent hand-tooled assembly language version. But you always need the run-time program to run a semicompiled program; like Basic you need both the language itself and the program you want to execute.

COMPILERS produce programs that can run by themselves. Arnor have produced a program that will turn your C program, once you've got it going and running in semicompiled form, into a stand-alone, fully compiled chunk of machine code. You can then distribute this to all and sundry, whereas the need for a run-time program limited the potential users of the semicompiled version to those who already had Arnor C.

At the time of writing this review this extra program was not available, but Arnor says that it will be included in all Cs that it ships. A lot of the compiler apparently was developed using this program and the compiler itself (compilers are often compiled in this way, it's darned clever and deuced confusing).

The linking process (happens after compilation, remember?) takes the raw program you've just written and ties it in with other programs and the libraries. Libraries are sets of standard functions, screen handling, disc processing and the like, that every program needs to work. For example, the C function to write something witty on to the screen is called PRINTF (PRINT Formatted). It's used in much the same way as PRINT in Basic, but it's slightly cleverer. A typical use would be PRINTF ("My name is Gruntleworp."), which, brackets apart, is a dead ringer for the Basic sibling command.

COMMANDS like PRINTF have to be identified. Every time you put PRINTF into a C program, the compiler remembers what it is you want to do, and leaves a marker there. It's up to the linker to find PRINTF in a library file, work out where it is and fill in the marker with a real address in the compiled program. But the linker usually includes the whole library in the final file, so you can end up with two line programs that link down to tens of kilobytes in length. C isn't designed for two-line programs . . .

Arnor C has a choice of four libraries, from which you can pick the ones that give you all the functions that you use without (hopefully) picking up too much extraneous baggage. The libraries are STDLIB.L, the full library, SMLIB.L which has most of the "standard" functions that all versions of C have, MINLIB.L has the bare minimum of simple, basic functions that you can still produce useful programs with, and MATHS.L is unsur-

prisingly the maths library.

Most programs don't use sines, cosines and all that gas, so it's nice to be able to leave the large library functions that provide that sort of service out.

COMPILED programs are big, even with the minimal library, you can end up with 13k or so of overhead on top of whatever program you've written. Silly for titchy progs, but once you get to about 30-40k of your program it starts to compete well with other options. And most of the functions in the full libraries are composed out of simpler functions from the minimal library, so you can always improvise them yourself, if you're desperate to do so.

This isn't the place to go into the mechanics and structure of the language. C cognoscenti will know that the bible was written by a couple of swells called Kernighan and Ritchie, and is referred to by all and sundry as "the C manual", or more simply as K&R. Arnor C claims to be a full K&R implementation, which means that any programs written in it will run on 99 per cent of C compilers on any computer. Including the big ones.

CONFINING a program to the features which are available on all computers is often a shame, so Arnor C also has extra functions to make efficient use of the CPC's screen and other attributes. These extensions make for easier programming, but will cause problems if you try to move your program onto another computer. This process, called porting, was one of the things that C was explicitly designed to make simple.

Arnor has also got functions that aren't in K&R, but are found on most Cs. There is an advanced standard called ANSI C, which defines all the bits that K&R got (whisper it) a little wrong. Arnor C seems to be closer to ANSI C than K&R.

CONFIRMED Arnor addicts will like the editor supplied with Arnor C it's – surprise – Protext. Well, it's "a full implementation of the program mode of Protext", and as such is up to the job of creating C source. It does lack a few features found on more specific editors, for example Vedit (the editor I use to create C source code on my PC) has automatic indent and bracket matching.

Indenting is very important in creating readable and debuggable C source; although the language itself doesn't care where on the screen the instructions are, the human charged with keeping the code will find it impossible to read unless each new level is shifted along an indent. For example, here's a fragment of C not indented...

```
{
if (sizecheck(jim) == 3)
{
  if ((++f && (!retcode))floppy)
{
printf("Some message");
alert(4);
}
else
{
printf("Dodgem City!");
}
}
}
```

and now here it is again, all nice and neat

```
{
if (sizecheck(jim) == 3)
    {
    if ((++f && (!retcode))  floppy)
        {
        printf("Some message");
        alert(4);
        }
    else
        {
        printf("Dodgem City!");
        }
    }
}
```

You might also see how useful automatic bracket matching could be, C lives and dies by its curly brackets... But there are features built-in to the editor which make such minor omissions seem, well, minor.

The compilation stage of the programming process can be entered from the editor (by typing AC from the command line). During compilation, any errors that crop up force a return to the editor, where they can be fixed and the compilation started again. A very civilised way of writing C.

CONCURRENT editing means that you can edit two files at once, and allows you to copy blocks of text between them. This is massively useful, especially in C, when you often need to cannibalise old programs for useful bits that you don't fancy writing again.

AC is much stronger than a mere compile command. It also links and runs the program, so during the later stages of debugging it turns into a nice environment under which the C freak can polish up his (I know of no female C freaks) creation. To a person such as I, used to skipping between compiler, linker and editor, scribbling down error messages on the back of the Guardian and losing my place, it is pleasant indeed. And it's all decently speedy, even on my minimal system.

The run-time system, called RUNC, is also capable of carrying out some basic functions to maintain the system, like disc housekeeping. But again it's much more flexible than it could have been, as compiling, linking and running a program can all be carried out from RUNC.

C tends to generate lots and lots of disc files. As well as the source code you wrote, there's the object file, the link file, various bits like the libraries and the compiler and editor itself. As a result, although you can make it all work on a single drive CPC6128 (or 464/664 with extra memory, as used for this review), a second drive is definitely good for the soul. And PCW owners with a second drive and oodles of M: will be laughing.

The manual is definitely for reference only. It does cover every aspect of the Arnor implementation quite thoroughly, including the black art of interfacing to machine code programs, but not going into gory details about memory allocation.

There are several appendices, but NO INDEX. Bah. Fooey. A plague of guppies on Arnor's house.

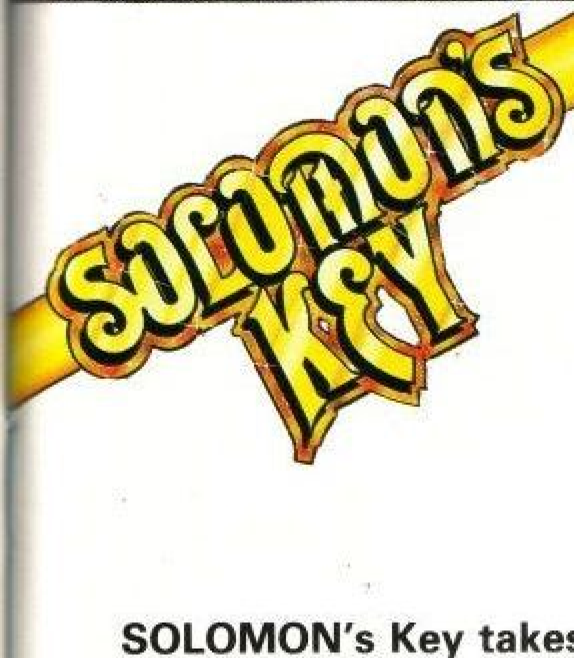
COVERING the software is one thing, but trying to teach C is another. The manual does advise the beginner to get hold of and read several books on the subject before starting, advice I'd wholeheartedly agree with, although the books you'll need are often very expensive.

It also tries (especially in the editor section) to cover both the CPC and PCW editing keys simultaneously, with the emphasis on the latter. As an Arnoldian I was left at times a little confused and feeling a second class citizen. But all the information is in there somewhere, and I've seen (and written) much worse.

C is unusual in the CPC field, as mastering it gives the programmer a readily saleable skill which he can apply in the commercial sector. The same program that you write for Arnor C and your 464 will port across to a multi-hundred thousand pound IBM mainframe (but it won't have the graphics).

So C, like it or lump it, is a Good Thing. Arnor C v The Rest is a little more difficult to quantify, but thinking of it as a tutorial tool (albeit with the capability to produce useful programs) makes me feel that the editor/compiler interaction and general niceness are strong arguments in Arnor's favour.

For £50 it has to be worth every penny. In typical Arnor fashion, they've taken their time and got it right. ACU



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   a) Jeremiah Chubb b) Joseph Bramah
   c) Linus Yale Jr.

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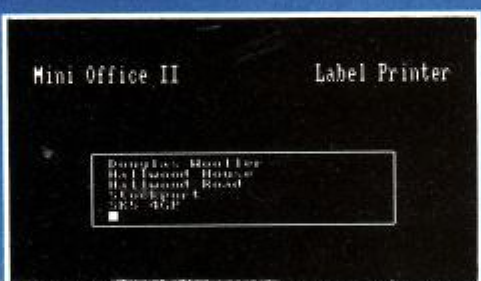
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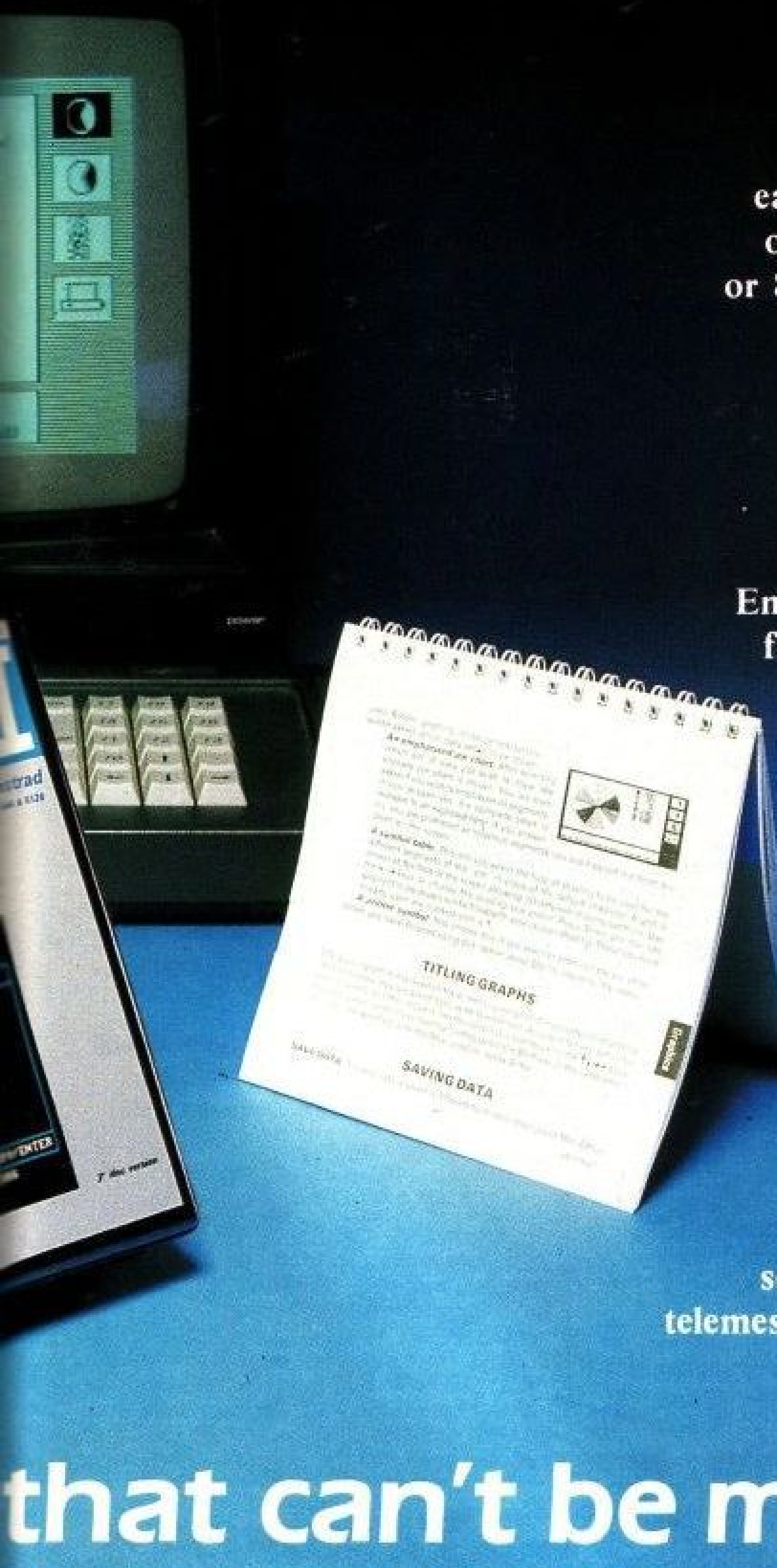
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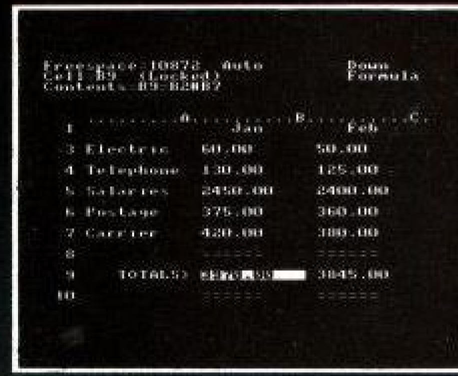
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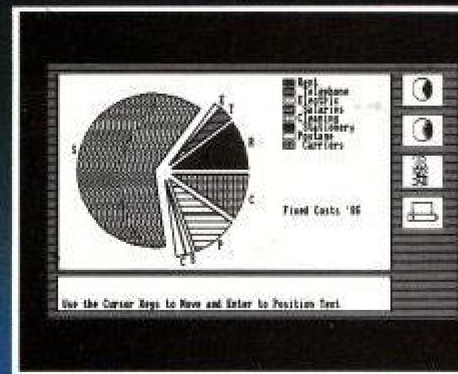
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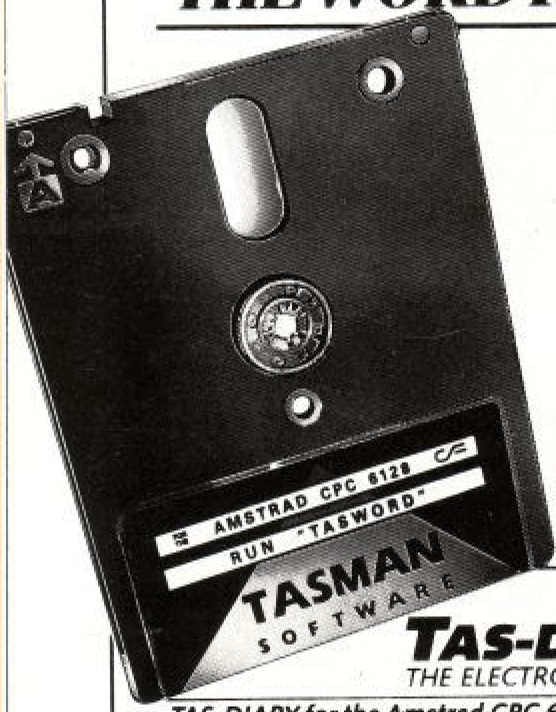
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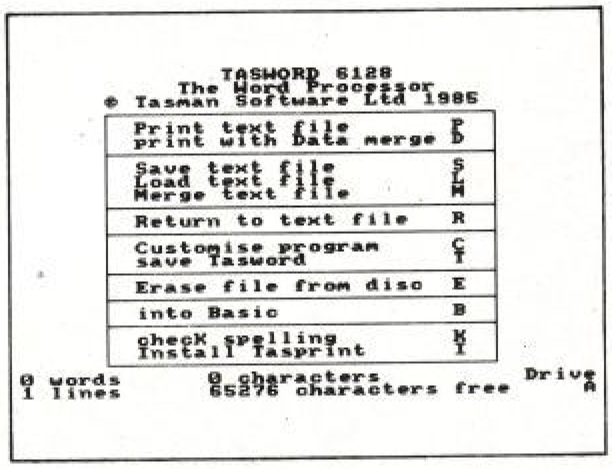
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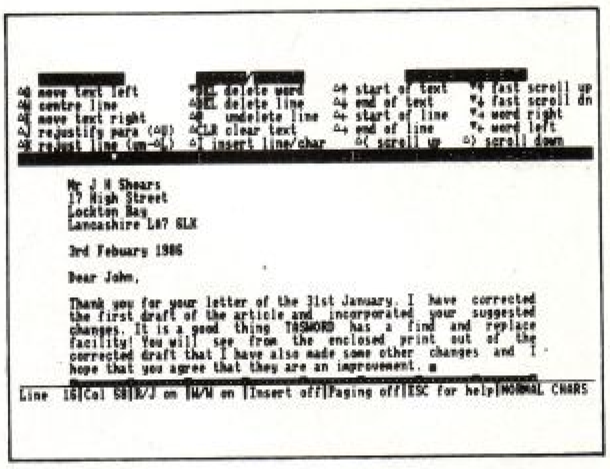
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TASWORD 6128 is the word processor especially developed to utilise the extra memory in the CPC 6128.
The program uses ALL the additional 64K of memory in the CPC 6128 as text space. This means that text files can be around ten thousand words long.
TASWORD 6128 includes a built-in data merge program. Mail merge, in which a letter is printed any number of times, each individually addressed to a different person, is just one of the applications of this powerful facility.
The notepads are a unique feature of TASWORD 6128. Four separate notepads are available. Typing reminders and storing letter headings are just two possible applications for the notepads.
Up to one thousand characters can be stored in ten user definable keys allowing commonly used words, sentences, or even paragraphs to be typed with a single keypress.
TASWORD 6128 has comprehensive customisation features. These allow many of the program facilities to be changed to personal requirements. A customised program can be saved and includes the notepads and user definable keys.
TASWORD 6128 is fully compatible with TAS-SPELL and TASPRINT. It will also read in data from Masterfile 6128. It can even be used to enter and edit your own Basic programs.
With all standard and many extra word processing facilities TASWORD 6128 is the most powerful of the TASWORDS, for the Amstrad CPC computers.

TASWORD 464-D

THE WORD PROCESSOR – WITH MAIL MERGE!

TASWORD 464-D disc £24.95

This is the new TASWORD especially developed to utilise the capabilities of the CPC 464 and 664 disc drives. The additional facilities include a larger text file size and automatic on-screen disc directories during save and load operations. A major new feature is the mail merge facility. This gives multiple prints of your standard letters, forms, etc., with each copy containing, for example, a name and address automatically taken from a disc file containing the data. This data can be entered using TASWORD 464-D, or created using the Masterfile Program Extension package. A powerful and useful conditional printing facility is included – parts of a document can be printed according to user-specified criteria. TASWORD 464-D will only run on, and is only supplied on, disc.

TAS-SPELL

THE SPELLING CHECKER

**TAS-SPELL disc £16.50
for the Amstrad CPC 464 and 664 running TASWORD 464-D and for the CPC 6128 running TASWORD 6128**

Spelling mistakes and typing errors spoil any document whether it is a private letter or your latest novel. With TAS-SPELL you are free to be creative in the confident knowledge that your spelling won't let you down.
TAS-SPELL checks the spelling of TASWORD 464-D and TASWORD 6128 text files. TAS-SPELL has a dictionary of well over twenty thousand words which it compares with the words in your text. If a word is not recognised then the relevant part of your text is displayed with the suspect word highlighted. You can correct the word, ignore it (it might be a name), or even add it to the TAS-SPELL dictionary.
Please note that TAS-SPELL will only work with TASWORD 464-D and TASWORD 6128.

TASWORD UPGRADES

TASWORD 464 and Amsword owners: send your original cassette or disc (not the packaging) as proof of purchase and £13.90. Your original will be returned together with TASWORD 464-D or TASWORD 6128 on disc.

TASPRINT 464

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TASPRINT 464 cassette £9.90 disc £12.90

A must for dot-matrix print owners! Print your program output and listings in a choice of five impressive print styles. TASPRINT 464 utilises the graphics capabilities of dot-matrix printers to form, with a double pass of the printhead, output in a range of five fonts varying from the futuristic DATA-RUN to the hand-writing style of PALACE SCRIPT.
TASPRINT 464 drives the dot-matrix printers listed below and can be used to print AMSWORD/TASWORD 464 text files. TASPRINT 464 gives your output originality and style. Completely compatible with the 664 and 6128.

TASWORD 464

THE WORD PROCESSOR

TASWORD 464 cassette £19.95

"There is no better justification for buying a 464 than this program"
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Your 464 becomes a professional standard word processor with TASWORD 464. Supplied complete with a comprehensive manual and a cassette which contains both the program and TASWORD 464 TUTOR. This teaches you word processing using TASWORD 464. Whether you have serious applications or simply want to learn about word processing, TASWORD 464 and the TUTOR make it easy and enjoyable.

TASCOPY 464

THE SCREEN COPIER

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A suite of fast machine code screen copy software for the CPC 464, 664 and 6128. Print high-resolution screen copies in black and white and also large 'shaded' copies with different dot densities for the various screen colours. TASCOPY 464 also produces 'poster size' screen copies printed onto two or four sheets which can be cut and joined to make the poster.

TASPRINT 464 and TASCOPY 464 drive the following dot-matrix printers:

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EPSON FX-80	TALLY MT-80	BROTHER HR5	COSMOS-80
EPSON RX-80	BROTHER M1009	DATAC PANTHER	AMSTRAD DMP2000
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THE SIGN MAKER FOR THE CPC 6128 AND PCW 8256/8512

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Tas-sign drives nearly all dot-matrix printers including those made by:

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TAS-SIGN £29.95

FOR THE CPC 6128 AND PCW 8256/8512

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An arcade game in Basic and machine code from D.L. Lau.

EAT the dots and defeat the evil killaballs. You've got plenty of lives, and you're going to need them. The 'balls are savage. You don't even have total command – you control left and right, but the ball goes up and down by itself.

This is a single load listing, but it is not checksummed – so please be careful typing it in. Save the game before running it. Good luck and have fun.

```
10 REM          K I L L A B A L L S
20 REM                 By D.L.Lau
30 REM -------------- CPC -------------
40 REM *** once only initialisation ***
50 MEMORY &7FFF:SPEED KEY 8,1
60 x=&8504:y=&8503:dir=&8505:disp=&8362:
   flag=&860B
70 CLS:INK 0,0:BORDER 0:INK 15,2,6:INK 9
   ,3,3
80 LOCATE 14,13:PRINT"PLEASE WAIT ......
   ."
90 FOR f=&8021 TO &8032:READ a:POKE f,a:
   NEXT
100 DATA 0,1,1,1,1,1,0,1,1,1,1,0,1,1,1,1
    ,1,0
110 FOR f=&8020 TO &819D STEP 20:POKE f,
    1:POKE f+19,1:NEXT
120 FOR f=&819D TO &81B0:POKE f,1:NEXT
130 ENT 3,100,5,1,50,2,2:ENV 1,19,-1,30,
    26,-3,10:ENT -1,50,-1,3:ENV 5,8,8,25
140 FOR f=0 TO 8:READ a:POKE f+&A000,a:N
    EXT
150 DATA 3,0,0,50,0,0,7,2,0
160 REM ******** characters' data ******
170 FOR f=&8200 TO &82DF:READ a:POKE f,a
    :NEXT
180 DATA 4,12,12,8,76,12,28,44,76,12,44,
    12,12,204,44,12,12,28,204,12,12,28,1
    2,140,28,44,12,140,4,12,12,8
190 DATA 4,12,204,8,12,76,12,12,44,76,12
    ,12,44,76,60,44,28,60,140,28,12,12,1
    40,28,12,12,140,12,4,204,12,8
200 DATA 17,51,252,34,51,118,51,51,57,11
    8,51,51,57,118,51,51,57,118,60,57,54
    ,60,185,54,51,51,185,51,17,252,51,34
210 DATA 17,51,51,34,118,51,54,57,118,51
    ,57,51,51,252,57,51,51,54,252,51,51,
    54,51,185,54,57,51,185,17,51,51,34
220 DATA 69,195,252,168,68,237,207,203,1
    99,207,237,222,237,12,201,214,237,23
    7,146,220,233,204,48,214,237,204,195
    ,204,84,252,252,136
230 DATA 0,0,0,0,0,0,0,0,0,0,0,0,16,32
    ,0,0,16,32,0,0,0,0,0,0,0,0,0,0,0,0
240 DATA 0,64,128,0,85,234,213,170,85,23
    4,213,170,193,144,96,192,192,144,96,
    192,85,234,213,170,85,234,213,170,0,
    64,128,0
250 GOTO 1970
260 REM ********************************
270 lev=1:sc=0:li=5:scr=1:ball=1:POKE &8
    605,1
280 REM ********* print screen *********
290 POKE &8600,0:FOR f=&854A TO &854E:PO
    KE f,0:NEXT
300 FOR f=&8551 TO &855A:POKE f,0:NEXT
310 MODE 0:ON scr GOSUB 670,880,1090,130
    0,1510
320 ad=&8035:FOR g=1 TO 18:READ a$:FOR f
    =1 TO 18:POKE ad,VAL(MID$(a$,f,1)):a
    d=ad+1
330 NEXT:ad=ad+2:NEXT
340 PEN 1:LOCATE 2,25:PRINT STRING$(18,C
    HR$(154))
350 FOR f=2 TO 24:LOCATE 1,f:PRINT CHR$(
    149):LOCATE 20,f:PRINT CHR$(149):NEX
    T
360 LOCATE 3,2:PEN 12:PRINT"Hi        Sc"
    :LOCATE 3,3:PEN 10:PRINT"Level"
370 LOCATE 20,25:PRINT CHR$(153):LOCATE
    1,1:PRINT CHR$(11):LOCATE 1,25:PRINT
     CHR$(147):LOCATE 1,1:PRINT CHR$(150
    ):LOCATE 20,1:PRINT CHR$(156)
380 PEN 1:LOCATE 2,1:PRINT STRING$(18,CH
    R$(154))
390 MOVE 20,345:DRAWR 596,0,3:MOVER 0,-2
    :DRAWR -596,0
400 PEN 4:LOCATE 5,2:PRINT hi:FOR f=1 TO
     li:CALL &8362,f+13,3,&8200:NEXT
410 CALL &8320
420 PEN 13:LOCATE 8,3:PRINT lev
430 REM ********** reset **************
440 POKE x,2:POKE y,5:POKE dir,3:POKE &8
    501,&82:POKE &8500,0:POKE &8507,&21:
    POKE &8508,&80:POKE flag,0
450 CALL disp,2,5,&8200
460 REM ********* main loop ***********
470 SOUND 2,478,200,7,5:FOR f=1 TO 700:I
    NK 2,6,26:NEXT:INK 2,20
480 CALL &9500:
```

```
490 FOR f=1 TO (sp-1)*30:NEXT
500 CALL &9000:PEN 3:LOCATE 14,2:PRINT P
    EEK(&8600)+sc:ON PEEK(flag) GOTO 520
    ,580
510 GOTO 480
520 REM ********** killed *************
530 SOUND 1,50,110,6,0,3
540 FOR f=1 TO 4:CALL &8362,PEEK(x),PEEK
    (y),&8200:FOR g=1 TO 150:NEXT
550 LOCATE PEEK(x),PEEK(y):PRINT" ":FOR
    g=1 TO 140:NEXT:NEXT

560 LOCATE li+13,3:PRINT" ":li=li-1:IF l
    i=0 THEN 1910
570 GOTO 430
580 REM **** completion of screen *****
590 SOUND 4,478,450,0,1,1:INK 0,0,26:FOR
     f=1 TO 3000:NEXT:INK 0,0
600 LOCATE 1,25:FOR f=1 TO 25:SOUND 1,30
    0-(f*10),2,5:PRINT:NEXT
610 sc=sc+PEEK(&8600):lev=lev+1
620 IF lev=16 THEN MODE 1:LOCATE 2,12:PR
    INT"   You cheated! There is no way
    you can complete this game without c
    heating.":FOR f=1 TO 2000:NEXT:GOTO
    1930
630 scr=scr+1:IF scr=6 THEN scr=1:ball=b
    all+2
640 POKE &8605,ball
650 li=5
660 GOTO 280
670 REM ********** screen 1 ***********
680 RESTORE 690
690 DATA 222222222222222222
700 DATA 211121111212111112
710 DATA 222222222222222222
720 DATA 211121211211121112
730 DATA 222322222222222222
740 DATA 112221112111112112
750 DATA 222222222222232222
760 DATA 211221212111222111
770 DATA 222211212122222222
780 DATA 211222212121211112
790 DATA 211112222221222222
800 DATA 222222111111211212
810 DATA 212212222222212212
820 DATA 212112111112112222
830 DATA 212222222222222112
840 DATA 222212211212112112
850 DATA 112212222212222112
860 DATA 113222222222222222
870 POKE &8601,214:RETURN
880 REM ********** screen 2 ***********
890 RESTORE 900
900 DATA 222222222222222222
910 DATA 211221121112211112
920 DATA 211222222222212222
930 DATA 222211121121212112
940 DA
900 DATA 222222222222222222
910 DATA 211221121112211112
920 DATA 211222222222212222
930 DATA 222211121121212112
940 DA
900 DATA 222222222222222222
910 DATA 211221121112211112
920 DATA 211222222222212222
930 DATA 222211121121212112
940 DATA 111222222222222112
950 DATA 222212111212112112
960 DATA 211212222212222222
970 DATA 211222121213212111
980 DATA 222222321222212222
990 DATA 121112222221211212
1000 DATA 222222121111222222
1010 DATA 211122122222212212
1020 DATA 212222221121112112
1030 DATA 222111321122222222
1040 DATA 212122222223222211
1050 DATA 212222112221211222
1060 DATA 222112222211222222
1070 DATA 112222222222222231
1080 POKE &8601,218:RETURN
1090 REM ********* screen 3 ************
1100 RESTORE 1110
1110 DATA 222222222222111222
1120 DATA 211221112222111212
1130 DATA 212222222122222222
1140 DATA 222122111222111211
1150 DATA 222222222222222222
1160 DATA 211321111211121112
1170 DATA 222222222212222222
1180 DATA 321222122222222123
1190 DATA 221211121112112122
1200 DATA 222222222222222112
1210 DATA 111123222111212222
1220 DATA 222221222222222322
1230 DATA 212122112121221121
1240 DATA 222222222222222222
1250 DATA 312212211221112112
1260 DATA 222222212222212222
1270 DATA 113211222112222221
1280 DATA 222222222222222311
1290 POKE &8601,227:RETURN
1300 REM ********* screen 4 ************
1310 RESTORE 1320
1320 DATA 222212212222111222
1330 DATA 221212212112222222
1340 DATA 221222222112111211
1350 DATA 211233222222122222
1360 DATA 222221111222222112
1370 DATA 222122222222222222
1380 DATA 112122221122121122
1390 DATA 222221111222121122
1400 DATA 211122231211123322
1410 DATA 212222222222222212
1420 DATA 212211221222222222
1430 DATA 222222221211112122
1440 DATA 111223111222222221
1450 DATA 322222222212321221
1460 DATA 221211212222222222
1470 DATA 221211221121121122
1480 DATA 211222223222222222

1490 DATA 222222222222231111
1500 POKE &8601,223:RETURN
1510 REM ********** screen 5 ***********
1520 RESTORE 1530
1530 DATA 222222211112222222
1540 DATA 211112213312211112
1550 DATA 212223212212322212
1560 DATA 212222222222222212
1570 DATA 222121212212121222
1580 DATA 222222212212222222
1590 DATA 111221112211122111
1600 DATA 222222222222222222
1610 DATA 221121211112121122
1620 DATA 223221223322122322
1630 DATA 122211222222112221
1640 DATA 122222211112222221
1650 DATA 221122222222221122
1660 DATA 221321123321123122
1670 DATA 211221122221122112
1680 DATA 211222222222222112
1690 DATA 222212212212212222
1700 DATA 113222222222222311
1710 POKE &8601,216:RETURN
1720 REM *********** title *************
1730 GOSUB 670:ad=&8035:FOR g=1 TO 18:RE
    AD a$:FOR f=1 TO 18:POKE ad,VAL(MID
    $(a$,f,1)):ad=ad+1:NEXT:ad=ad+2:NEX
    T
1740 POKE &8600,0:FOR f=&854A TO &854E:P
    OKE f,0:NEXT:POKE x,0:POKE y,0
1750 MODE 0:PEN 1:PRINT"K I L L A B A L
    L S"
1760 PEN 2:LOCATE 6,3:PRINT"By D.L.Lau":
    PEN 12:LOCATE 3,7
1770 PRINT"Steer your ball":PRINT:PRINT"
      left or right to":PRINT:PRINT"col
    lect white dots."
1780 PEN 4:PRINT:PRINT" Avoid your enemi
    es":PRINT:PRINT"and flahing objects
    ."
1790 PEN 3:PRINT:PRINT" Use left and rig
    ht":PRINT:PRINT"cursors or joystick
    "
1800 PRINT:PRINT"    for steering."
1810 PEN 7:PRINT:PRINT" Space bar to sta
    rt."
1820 POKE &8605,5
1830 CALL &9500:IF INKEY(47)<>0 THEN 183
    0
1840 FOR f=1 TO 25:LOCATE 1,1:PRINT CHR$
    (11):NEXT
1850 MODE 1:LOCATE 8,10:PRINT"Input spee
    d level (1 to 10)"
1860 PRINT:PEN 2:PRINT"        1 is supe
    r impossibly fast"
1870 PRINT"      10 is super boringly s
    low"
1880 PEN 1:LOCATE 20,16:INPUT sp
1890 IF sp<1 OR sp>10 THEN LOCATE 20,16:
    PRINT SPACE$(20):GOTO 1880
1900 GOTO 270
1910 REM ********** game over **********
1920 PEN 14:LOCATE 7,14:PRINT"GAME OVER"
1930 sc=sc+PEEK(&8600)
1940 IF sc>hi THEN hi=sc
1950 FOR f=1 TO 1500:NEXT:GOTO 1740
1960 REM
1970 REM ** M/C for printing screen ***
1980 RESTORE 1990:FOR f=&8320 TO &838A:R
    EAD a$:POKE f,VAL("&"+a$):NEXT
1990 DATA 21,21,80,E,5,6,2,7E,C5
2000  DATA E5,69,60,FE,1,28,1A,FE,2,28
2010  DATA 1E,FE,3,28,22,E1,23,C1,4,78
2020  DATA FE,14,20,E6,C,79,FE,19,C8,23
2030  DATA 23,18,DB,11,80,82,CD,6E,83,18
2040  DATA E6,11,A0,82,CD,6E,83,18,DE,11
2050  DATA C0,82,CD,6E,83,18,D6,DD,5E,0
2060  DATA DD,56,1,DD,6E,2,DD,66,4,25
2070  DATA 2D,CD,1A,BC,6,4,E,8,C5,E5
2080  DATA 1A,AE,77,23,13,10,F9,E1,1,0
2090  DATA 8,9,C1,D,C2,77,83,C9
2100 REM ********* ball M/C ************
2110 adr=&8FFF:FOR f=1 TO 56
2120 READ byte$
2130 FOR g=1 TO 20 STEP 2
2140 POKE adr,VAL("&"+MID$(byte$,g,2))
2150 adr=adr+1:NEXT:NEXT
2160 DATA 003E00320D86CD1BBBFE
2170 DATA F32811FEF22814CD24BB
2180 DATA FE082806FE042809180C
2190 DATA 3E02320D8618053E0432
2200 DATA 0D863A0585FE04CA0191
2210 DATA FE02CA8E90FE03CACA90
2220 DATA 3A0D86FE02CC3D913A0D
2230 DATA 86FE04CC51913A0385FE
2240 DATA 06CA629111ECFFCDC591
2250 DATA 2A07867EFE01CA6291FE
2260 DATA 03CA2092FE02CC6E912A
2270 DATA 07862207852A03857D3D
2280 DATA 320385ED5B0085CD6E83
2290 DATA CDB2912A0385ED5B0085
2300 DATA C36E832A078511140019
2310 DATA 7EFE00CAEF91FE02CAEF
2320 DATA 91110100CDC5912A0786
2330 DATA 7EFE01CC5191FE03CA20
2340 DATA 92FE02CC78912A078622
2350 DATA 07852A03857C3C320485
```

```
2360 DATA C37A903A0D86FE02CC3D
2370 DATA 913A0D86FE04CC519111
2380 DATA 1400CDC5912A07867EFE
2390 DATA 01CA6891FE03CA2092FE
2400 DATA 02CC82912A0786220785
2410 DATA 2A03857D3CC377902A07
2420 DATA 85111400197EFE00CA04
2430 DATA 92FE02CA049211FFFFCD
2440 DATA C5912A07867EFE01CC3D
2450 DATA 91FE03CA2092FE02CC8C
2460 DATA 912A07862207852A0385
2470 DATA 7C3D320485C37A902A07
2480 DATA 85237EFE01C8FE03CA1F
2490 DATA 923E02320585E1C92A07
2500 DATA 852B7EFE01C8FE03CA1F
2510 DATA 923E0418EA3E03320585
2520 DATA C93E01320585C92A0385
2530 DATA 2DE511ECFF181E2A0385
2540 DATA 24E511010018142A0385
2550 DATA 2CE5111400180A2A0385
2560 DATA 25E511FFFF18002A0785
2570 DATA 19AF77E13A0186473A00
2580 DATA 863CB8CA199232008611
2590 DATA A082C36E833A0085FE00
2600 DATA 28063E00320085C93E20
2610 DATA 320085C93A0586320A86
2620 DATA 2A078519220786215185
2630 DATA E55E23562A0786BFED52
2640 DATA E1CA1F9223233A0A863D
2650 DATA C8320A8618E63A0D86FE
2660 DATA 02C262912A0785237EFE
2670 DATA 01CA6291C3A0903A0D86
2680 DATA FE04C262912A07852B7E
2690 DATA FE01CA6291C313913E02
2700 DATA 320B86C9E13E01320B86
2710 DATA C9C9E13E01320B86C900
2720 REM ********* enemy M/C ***********
2730 adr=&94FF:FOR f=1 TO 59
2740 READ byte$
2750 FOR g=1 TO 20 STEP 2
2760 POKE adr,VAL("&"+MID$(byte$,g,2))
2770 adr=adr+1:NEXT:NEXT
2780 DATA 003A05863D320A86214A
2790 DATA 85856F7EFE002817FE02
2800 DATA CA8D95FE03CA1096FE04
2810 DATA CA94963A0A86FE00C818
2820 DATA DBED5F2E05FE1E380EFE
2830 DATA 50381426132210862132
2840 DATA 80181226082210862127
2850 DATA 8018082 60D2210862 12C
2860 DATA 80221286212 0853A0A86
2870 DATA CB27856F364023368211
2880 DATA 0F0019ED5B1086D57323
2890 DATA 7211200019ED5B128673
2900 DATA 2372214A853A0A86856F
2910 DATA 3603114082E1CD6E83C3
2920 DATA 2095213085CD3C97ED53
2930 DATA 108614CD9D9518262A03
2940 DATA 85BFED52CA1F92215185
2950 DATA CD3C97ED531286211400
2960 DATA 197EFE02CACF96FE00CA
2970 DATA CF962A1286C9237EFE01
2980 DATA CAEE96CDCF951820FE03
2990 DATA CA1197212085CD3C97ED
3000 DATA 5307862A1086CD6E8321
3010 DATA 30853A0A86CB27856FC9
3020 DATA 5E2334CDF795181256EB
3030 DATA E5CDF696E1CD6E832151
3040 DATA 85CD3C972BC913732372
3050 DATA C32095213085CD3C97ED
3060 DATA 5310861C2A0385BFED52
3070 DATA CA2092215185CD3C97ED
3080 DATA 531286131AFE02CAB996
3090 DATA FE00CAB9961B1B1AFE02
3100 DATA CAC496FE00CAC4962A12
3110 DATA 86111400197EFE01CAE8
3120 DATA 96FE03CA1297212085CD
3130 DATA 3C97ED5307862A1086CD
3140 DATA 6E832130853A0A86CB27
3150 DATA 856F345E2356EBE5CDF6
3160 DATA 96E1CD6E83215185CD3C
3170 DATA 972BE521140019EBE173
3180 DATA 2372C32095213085CD3C
3190 DATA 97ED53108615CD9D952B
3200 DATA 7EFE01CAF296CDCF955E
3210 DATA 2335CDF7951B732372C3
3220 DATA 2095ED5FFE280602381A
3230 DATA C33A96ED5FFE3C060438
3240 DATA 0FC34796ED5FFE3C0603
3250 DATA 3803C3BF95E13A0A8621
3260 DATA 4A85856F7877C32095ED
3270 DATA 5FFE3C3804060418E906
3280 DATA 0218E53A0786FE402810
3290 DATA 1E4021 20853A0A86CB27
3300 DATA 856F731682C91E6018EE
3310 DATA E1213085CD3C97D52120
3320 DATA 85CD3C97E1CD6E83214A
3330 DATA 853A0A86856FAF772151
3340 DATA 853A0A86CB27856F3600
3350 DATA C320953A0A86CB27856F
3360 DATA 5E2356C9000000000000
3370 GOTO 1720
```

ACU

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NEWSLETTER

Spreading the word

IN the centenary year of the international language Esperanto, a new branch – or Grupo to be exact – has been formed in London, and MicroLink is its chosen electronic route to the rest of the world.

About 52 million people worldwide – 8 million in Europe – speak the amalgam of Anglo-Saxon and Latinate tongues invented in 1887 by Polish doctor Ludovic Zamenhov.

The Sud-Londona Esperanto-Grupo has been going for five months.

Secretary Gregory Porilo said: "We believe the time is ripe for a revival of interest in Esperanto. Not just because of its centenary, but also because it has been accepted as a subject for the new GCSE exams and is now the EEC's official language for basic translation.

"The South London branch of Esperanto is using MicroLink to further spread the word about the benefits of learning the language".

Typesetting over the line

LOW-COST, professional quality typesetting for everything from business cards to magazines is now available electronically on MicroLink.

Wordstream provides a 24-hours-a-day, seven-days-a-week service for companies and individuals who want to control their own printing and save on costs.

All subscribers need do is key in the text on their micro and send it via MicroLink's electronic mail system. It is switched electronically to Wordstream in Bournemouth who typeset the material and return the finished product by first class post or special delivery.

Text for typesetting can be prepared on an ordinary word processor by inserting special codes to specify typefaces, sizes and measures. Then it is transmitted to the Wordstream mailbox on MicroLink.

Special software automatically checks the text file to ensure that codes are correct, and initiates processing immediately. Within 30 minutes a bromide repro for plate-making or camera is produced for despatch.

The service offers 155 typefaces from 4.5 to 72 point. The range includes expanded, condensed and italic type, variable letterfit, accents and fractions, and paper-saving multi column text.

Payment is by the foot length of repro and Wordstream registration is free on MicroLink.

SPEEDING THE FACTS

NEARLY 30 of Scotland's largest local authorities and six local government trades unions are communicating electronically via MicroLink.

The Scottish Local Government Information Unit was set up two years ago as an information research and publicity service for the organisations.

"We feed facts and figures in easily digestible format to well over 1,000 key elected officials and administrators", said the Unit's director Archie Fairley.

"In addition we are a source of local government information.

"MicroLink telex and electronic mail facilities will help us move all this information a lot faster than before".

Aid to trade

MICROLINK technology is helping improve trade links between Britain and the Third World.

Latest overseas businessman to take advantage of fast, efficient telex and electronic mail facilities is S.S.Wijayasinha.

He is managing director of Bureau-Matic, based in Abidjan, capital of the Ivory Coast, a former French colony in West Africa.

"My company imports computer accessories from various suppliers in the UK, but existing communications are not satisfactory", he said.

"Letters can take up to three weeks to arrive and the telephone service is very erratic.

"I plan to use MicroLink for all my international communications from now on because I know I can depend on its speed and reliability".

New Open University Club

LIKE many of the Open University's 70,000 plus students, electronics engineer Jim Hatton often feels a sense of isolation.

"I can't get to evening classes every week, I have little or no contact with other OU students, and though the instructors are very helpful they are also very busy and I dislike bombarding them with letters and phone calls", he said. Jim's solution – for himself and other part-time students in the same situation – has been to form an Open University Club on MicroLink where people can communicate electronically about their courses.

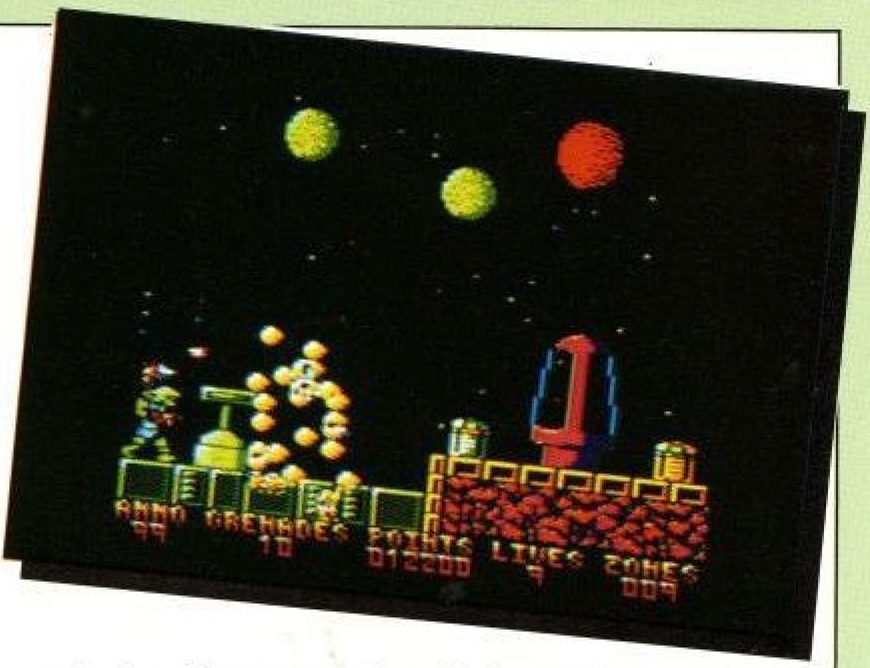
"At a recent summer school I discovered that a lot of people like me can't get to the tutorials", he said. "But lots of us have micros and modems, so the technology for exchanging ideas and opinions is there to be tapped.

"The Open University has a policy of encouraging self help groups where students can discuss problems and gain a greater understanding of their courses.

"I'm hoping that OU instructors will also log on to the Open University Club on MicroLink so that students can benefit from their input too".

YOUR chance to join MicroLink – turn to Page 7

EXOLON



FANTASTIC. Brilliant. Out of this world. I could play this all night. Stunning. What do you mean, it doesn't need a prescription? Well, I suppose they've taxed it.

A shoot-em-up along a planetscape has been done once or twice before, but not like this. This one had me going hammer-and-tongs for a whole afternoon. It's got everything an arcade junkie could want, targets, bombs, semi-auto weaponry, teleport, aliens, stunning colour graphics, simple controls and a few tricks which have you going "but that's impossible!". You still try to do it though.

The small suited figure (the figure, not the suit) brings to mind a Star Wars stormtrooper. But this time, it's you. Weaponry is simple, but effective. One semi-auto rifle with 100 round mags, and a 10 shot grenade launcher. The rifle is good for most of the aliens, and the grenade launcher takes care of everything but lasers and double rocket launchers (I think). Ammo dumps are all over the place, but if you DO run out, you is sunk anyways mate.

The little guy can go forwards, backwards, jump and bite dust. The rifle fires one shot at a time, and leaving the trigger down launches a grenade (it also wastes a bullet, winge winge). Grenades launch in a spectacular manner, dwarfed only by the explosions they cause, seemingly composed of glitter and malevolence. All this poetic exploding doesn't make up for the wee problem that while you're firing grenades, you're not shooting bullets.

The enemies, origin of whom is never fully explained, come in various nasty varieties. Blobs, grenades, jellyfish and so forth.

There's this pod of red blobs (a bit like a pod in defender, but more like a goldfish bowl full of gobstoppers) which disintegrates when you grenade it to release loads of the little beggars. You have to shoot it, 'cos its in the way.

The worst nasty I can remember defeating is the double rocket launcher. You blast, run forward, blast, duck, blast and run forward until you can jump over it.

An easy but spectacular obstacle is this force field thing that comes all down the screen. To blow it's fuse, just pump rounds into it, and Wham! What an explosion. You seem well padded enough to remain unscathed through it all.

After blasting your way through the first few screens you find the pink pod. This magically refits your suit and weaponry to something awesome (and you don't lose it when you lose a life either). The suit is now bullet-(but not alien) proof and the rifle is now a double-barrelled alien filth zapper. Very handy.

After a few more screenfuls of good 'ol mindless blasting you finish the level. Goodbye suit, sniff! In compensation, there is a bonus table, a bit like those things that you find on fruit machines (the ed is an addict, by the way). You know the sort of thing; a row of lights with writing like "Evens, double, triple, even more, zero" on them. And, just like fruit machines, guess which one it always lands on.

Still, to keep you occupied there are 125 levels. It really is possible to do them all (even level 87), but careful planning is required as you can't go backwards to get to that teleport that you desperately need to get up to the suit ...

This game is only for hip froods. Go out. Buy it. Now.

Author: Hewson
Price : £8.95

Nigel

I wondered what all the fuss was about until I played Exolon for a bit. I am delighted that Cliff has produced a poke for it. It may not make this issue though - look out for next month's mag.

Everything reeks of quality, the arc of the grenades, the flames from thrusters. Even the animation when your man dies. Whatever this chap programs next, I want to play it.

20/20

Liz

Good programmers like to work for good companies, so when Raffaele Cecco left Mikro-Gen (RIP), where he coded the excellent Equinox, he went to Hewson. The Abingdon software house is the one with the best name among programmers.

I found the force field on sheet 35 a bit tough, but after I'd blasted it enough times it gave in. This has got a huge "just one more go" rating. The arcade equivalent must be something like Gryzor or Side Arms, Those machines have hardware sprites, so when Mr Cecco does everything in software and there is still no degradation in speed he must be a pretty nifty coder.

19/20

Colin

Now this is a game. I can go for. What it hasn't got, I don't want ('cept maybe the grenades on fire 2). Even in defeat, the guy in the tin suit flops well. This is very addictive, and fights fans will tear the office over this tape.

Even without the instructions (they're always lost by the time the game gets as far as me), this were a good zap. Technique is important here, but if you think about it for too long, this thingy leaps out and grabs you. Methinks that this one, like Sorcery, Manic Miner, JSW etc. will run for ever.

19/20

SUN STAR



IF you find yourself dreaming about chain-link fences, pinning sheets of graph paper up on your bedroom wall and generally living a square-matrix oriented life, you are suffering from what we psychologists call a grid fixation. This game is for you.

Early in the 22nd Century it transpires that there is a small problem with the solar power stations set up to provide energy crystals for spaceships. The stations orbit stars, and due to a build-up of unstable disruptive energy pulses (watch out for the radioactive lentils) it has become impossible for normal craft to collect these here crystals. Note the normal.

What is clearly needed is an abnormal craft. Sun Star is that craft, faster, more totally weaponed and redesigned to do the deed with only a modicum of personal jeopardy. But somebody's still got to fly it, and since it's an abnormal craft the job description clearly calls for an abnormal pilot.

Your card has been marked ever since you wrote a fan letter to Max Headroom's interior designer (. . . love those parallel lines) as a griddie. Climb into that cockpit, six eyes, and learn the ropes.

Staring out of the window reveals a universe of squares as far as the optical reception organ can perceive. Most of these squares are blank, but some are filled in with yellow or blue to show the walls of the maze-like grid upon which the game is played out. There are also white, green and red squares, which represent disruptor pulses, energy crystals and ordinary pulses. Fire on a disruptor pulse, and it will leap to a new part of the grid leaving behind it a green crystal for you to pick up.

Leave a crystal too long, and its resultant disintegration will set up matrix resonances that make all your previously collected rocks go poof. Wonder if they're dilithium? You can (and indeed should) collect 10 of these pebbles before heading for the hyperwarp cell (they must be dilithium) and migrating to a new section of the grid. The hyperwarp cell can also recharge your batteries, and adds a little extra sage and onion to the game by being hidden in the middle of an almost inpenetrable square. There is a way in, but it's very small and moves.

There are a few guidance systems to systematically guide you. To the left is a "from the top" view of your immediate vicinity, and to the right a much larger schematic map of you and the things that surround you. Both are purty damn useful. There's also a meter for you to watch as your energy runs down, and indicators to track objects. Good stuff, all of them.

Tactics? If you must play to win, try and get to know the maps intimately. There's a lot going on, and not all that much energy to spread about, so try and get the fastest circuits off pat. And if he won't give them to you, do it yourself.

Author: CRL
Price: £8.95 (tape) £14.95 (disc).

Nigel

Guess who's discovered the magic of the pallete register? The between-games screen of Sun Star is by far the most potent argument against colour I've ever seen. Urgh.

The game itself, while a little on the blocky side (no finely detailed sprites here), is much easier on the eyeball. It's also infuriating and enjoyable, but a little more technical cleverness in the conversion could have produced some much more impressive graphics. Doesn't affect the playability though.

17/20

Liz

My feelings towards this game varied from the impressed (nice loading screen) to the appalled (the attract mode was horrendous) to the unimpressed (that's the playing screen?) back to the appreciative again (one more game won't hurt... ahem).

I'm writing this in the appreciative mode, which must mean the game has something to recommend it even if the physics in the game description is as genuine as an Arthur Daley guarantee. Why Sun Star? Would you buy a game called Guardian Daily Telegraph?

16/20

Colin

Humm . . . Tron light cycles, no not quite, it may look like Trail blazer but that doesn't fit the bill either. Sun Star is a different game, and certainly very addictive.

You don't need the six eyes my friend has refered to, but the usual homo sapiens quota is an eye too few. There is a fair sense of being on the grid, and in many ways it feels a bit like Ballblazer, the smigin of panic, the feeling of being lost and that there is something out there trying to get you.

18/20



BASKETBALL

Well, you sure picked the wrong person to do a review of a two-man basketball game. I'm so short I have difficulty in reaching the fire button on the joystick. Still, any fool can manage this, load it up, joystick option, one player ("novice" level), bingo.

Teensy sprites are the order of the day, the players being about 10 pixels high in mode one. The players could best be described as "ethnic", as the only colours used are blue, yellow, black and brown. No palette switching and, while I'm wingeing, only one third of the screen is used to play on.

Anyway, one side or another gets the ball and bounces it up and down on his/her (the graphics aren't *that* detailed) foot. Completely ignoring the pain, and completely beyond your control (attempts to move at this point cause a noise best described as breaking wind) everybody charges off down the field.

There is no way of telling which is your bloke, and which is the one the computer is playing. The only way of finding out is to whip the joystick round and see who does the breakdance. And he still doesn't drop the ball!

Ok, I've got the ball. Charge! What does "Team foul" mean? Come off it ref. He hit my fist with his groin. Other side then have a bash at what I just did, but with the result "Professional foul". Very professional. So bleeding professional even I didn't see how I did it.

Trying to pass the ball is fun. "Press the fire button briefly" it says. My bloke then tries a shot. From the half way line. It missed (you'd never have guessed). One in three presses seem to be just brief enough to pass instead of shoot.

I suppose you want to know how you shoot then eh? Well, you press the fire button. Very skilful that. Even if your sprite is facing the other way, he spins round through 180 degrees and whangs it at the net. You have no control over this whatsoever, all you have to do is get as close as possible to the net, which gives you a better chance of scoring, trying all the time to avoid messages like "3 second penalty", "Charging", "No eye-spiking or spitting" and so on.

One of the biggest let-downs is the lack of shadows. I know they're difficult to program in, but when you're playing a 3D game, it's very nice to know if the ball is on the ground in the top left, or 10 feet up in the air top right. You've gotta know where your balls are.

Author: Activision
Price: £14.95 disc, £9.95 tape

Nigel

Basketball is a fast, exciting game, so how Activison has managed to portray it as awkward and confusing I don't know. There is all the jargon and the computer is just too damn good. Sports simulations are last years fad.

By looking around the arcades I predict that things are going to get more violent. This months crop of games from Activision has done a lot of harm to a previously good reputation (built on Enduro racer). It can, and must, do better.

6/20

Liz

I've never been one for basketball simulations, I even found the Amiga version of One-on-one a disappointment. I suspect it is because basketball is too complicated a game to simulate with just one joystick, you need a track ball and a number of "move" buttons at the very least.

The programming is uninspired, and the sprites a fair bit too small. Certainly not worth the full price Activison is asking.

7/20

Colin

Perhaps the true spirit of this game can be told by the fact that I couldn't find anyone sufficiently enthused to partner with me. I've played Atari basketball before, and that knocks this little lot into a cocked hat thank you very much.

The Atari job never had as much detail in it, but was infinitely more playable. Maybe if you like or understand real basketball, you'll get on better than I did. This one gets nine out of ten - on the "Yeuch" scale.

8/20

GAME OVER



THIS game gained a certain infamy even before it hit what passes for streets around here. Let's not be too prissy, it was the amazing vanishing nipples that did it – the original adverts for Game Over featured a female with those attributes prominent, as they say. Later adverts were modified to omit them, however those who care passionately about matters mammary will be relieved by the loading screen. I'm glad I've got that off my chest...

Somebody shouted: "But what about the game?". Thank you, sir. Having dispensed with the sex, I'm happy to report that the violence is left untouched. A hero, Arkos by name, was once the right hand man (man isn't exactly specified, but given the undeniable nature of the aforementioned attributes, I feel we can take it as read that the protagonists in the plot are as close to homo sapiens as makes no discernable difference) of the absolute ruler of these parts, Gremla. And what do you mean, you've forgotten the beginning of the sentence?

Together, this team was tri-nitrotoluene. None could stand before them. They could even spell invincible. But power corrupts, and absolute power makes you forget about arms deals. In short, Ramleg lost her marbles, and Arkos is set to do her in and set the galaxy to rights.

As is the norm in these sort of games, the dramaturgists dash around a scene set with platforms, lifts, and other architectural acoutrements. LaMarg has a formidable army of robots, which glide and swoop around the place, loosing off bolts of an un-named and unhealthy nature.

As Arkon has a limited energy supply, and each bolt drains a unit, he is understandably keen to indulge in a little discorporation. He is kitted out with a gun and grenades, both of which have this much desired anti-robot feature.

Robots can also be sent to their maker by physical contact. This activity is also a tad draining on Arkos, who loses three times as much energy this way than by sitting there and absorbing bolts. As luck would have it, there are containers with extra energy about the place, and three shots from Arkos' gun opens them up.

Identical containers contain extra grenades, power, invulnerability shields (with very vulnerable batteries) and the odd mine. These last objects are deadly to Arkos, but as he can't tell what lies in wait until he opens the container...

I forgot to mention the laser bases, green monsters, ships, Giant Orko and his mate, the Giant Robot. And possibly I omitted to mention the Giant Guardian, the Leiser-Freisers and the Kaikas. This last mob live on the second planet to be visited (and to be loaded off tape), Skunn.

The first planet, called Hypsis, is a mere playground on which Arkos can sharpen up his lets-fall-down-dead routine. He's going to do a lot of that. Hypsis is linear – the action progresses from left to right in Manic Miner fashion. Skunn is more your Wet Set Jelly pattern, the rooms are connected top and bottom as well as left and right.

Get the picture? Arkos has got the picture. And the laser bolts. And the undivided attention of the Giant Orko. But will he get the girl?

Author: Imagine
Price: £8.95

Nigel

I wanted, begged, abjected myself most horribly to review this game. I even gave Liz her Konix back, and all on the basis of seeing a screen over the Ed's bony shoulder. The graphics are horribly good, as the room switch rather than scroll give the Z80 time to animate an unreasonably large number of unreasonably well-designed sprites.

But the game is just 2Dam difficult. Too many lasers, too few lives. But true zapheads will enjoy it, and get a fulsome sense of achievement after completing a screen. Imagine(1984) get better and better

19/20

Liz

Dinamic certainly knows where they are coming from. Other than Span that is. That is the Spanish company which has tied up a deal with Imagine to sell its software over here.

Imagine has got a good deal. The program is excellent. It is difficult, you could do with several more lives, going back to the beginning every time you die is a real pain. Obviously from the same stable as Army Moves.

17/20

Colin

Crouch, jump, sweat, zap. A demanding game, this 'un. Full of irksome promise, too, as lifts drift out of sync, mines blow you up and ten zillion zillion nasties converge on your heroic last stand.

There are two games here; you get to play the second, even more hairtearingly hard, after completion of the first. The consolation prize of an exceptionally pretty demise makes up for my ineptitude at winning. But I can't wait for Hairy Hacker's cheat sheet!

18/20

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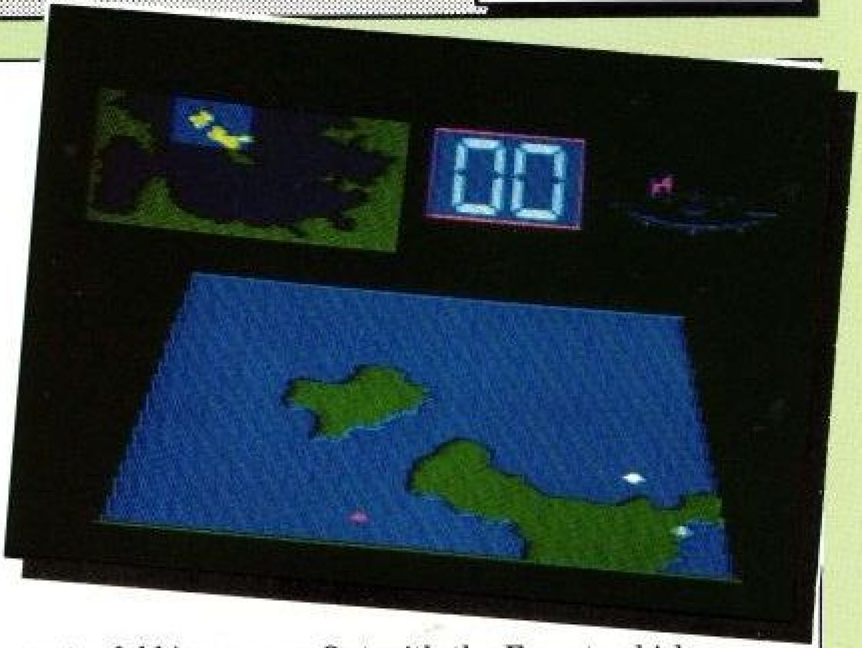
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CONVOY RAIDER



THE spray from the waves breaking over the bow drench the radar, the lookout post and, almost incidently, you. Remember those long, slow, Sunday afternoons when there was nothing on the telly except horse racing, athletics the test card and an old WW2 naval escapade?

You thought the Atlantic was grey because it was an old film. No. The Atlantic is grey because it is cold and wet. Qualities it is trying, with some success, to imbue you with. As you raise your standard issue binoculars to your frozen face you recall with some affection Gremlin's Convoy Raider.

The game opens on three radar screens, representing the air, sea and submarine environments around your position. You can select a map (to show you where you are), a screen for firing Sea Wolf missiles, another for launching an Exocet and another for dropping depth charges. As you might suspect by now, these last three options are for disposing of enemy aircraft, frigates and submarines respectively. Or even reflectively, because (as Jennings might have put it), if you hit a guy with an Exocet it doesn't half give him something to reflect about.

As you push your way along atop Poseidon's watery realm, you stand a good chance of being noticed by the aforementioned enemy. Alternatively, you can go looking for them, as the map shows everything.

However you come together, as soon as your electronic defences spot 'em you will get an alert. Yellow alert doesn't mean much, but should any of your radar indicators go red, it's time for some serious shootings.

Say an aircraft comes bobbing along. Select Sea Wolf, and you will at once be plunged into a "here come the planes and there is your cursor" game, where you aim your cursor at a point where you think an aircraft might be some time in the near future and unleash a missile. It's all set against what would be a beautiful sky, if only there weren't these nasty bombers coming at you out of it. Ruins a quiet evening.

Alternatively, a warship might meander into mutual mortar-lobbing range. Out with the Exocet, which you steer with your joystick until it hits the enemy. Whether it explodes or not is another matter, but in any case the impact of a barely subsonic missile filled with high-grade rocket fuel is enough to cause no little damage to the ship, which will shortly become a one-way submarine.

And talking of submarines, should you be lucky enough to spot one of those strange fish it's scramble the helicopter with the nuclear depth charges (one of those things which the MOD would rather not talk about, thank you very much) time. Spot the sub on the 3D sonar, and bomb the brown&sticky out of it. Of course, it can shoot little missiles of it's own at you should you come within anywhere near damaging it, but these choppers are nippy little things and you can always dodge.

Is this more fun than a saturated roll neck in the sub-Arctic? Or would you rather turn over and watch the horse racing? Why do these reviews always finish with a question? Why not?

Price : £8.95 (tape)
Author: Gremlin Graphics

Nigel

Once upon a time, I was involved with seaborne defence systems, and I've fired a SeaWolf in simulation. Nothing like this game, though, where the only odd thing that happens is that if you move the joystick up the cursor moves down. Similarly, in the fire an Exocet phase all you have to do is not touch the joystick and the missile hits. Boring.

The submarine bombing option is pretty dull, too. Add the facts that you don't see the score or your state of damage until you die and this is a pretty boring, slow moving, frustrating collection of three hackneyed games that together might make up half of a two quid compendium. Gremlin have got to be kidding.

10/20

Liz

This game seems to lack direction. It would be better if there were missions to perform. Escort a merchant ship from one place to another. Patrol the Straits of Homuz – that kind of thing.

Just sailing about shooting and being shot at gets tedious, you want to enter a battle. Real commanders spend all their time trying to keep out of trouble. The more I played this the more I lamented what could have been.

11/20

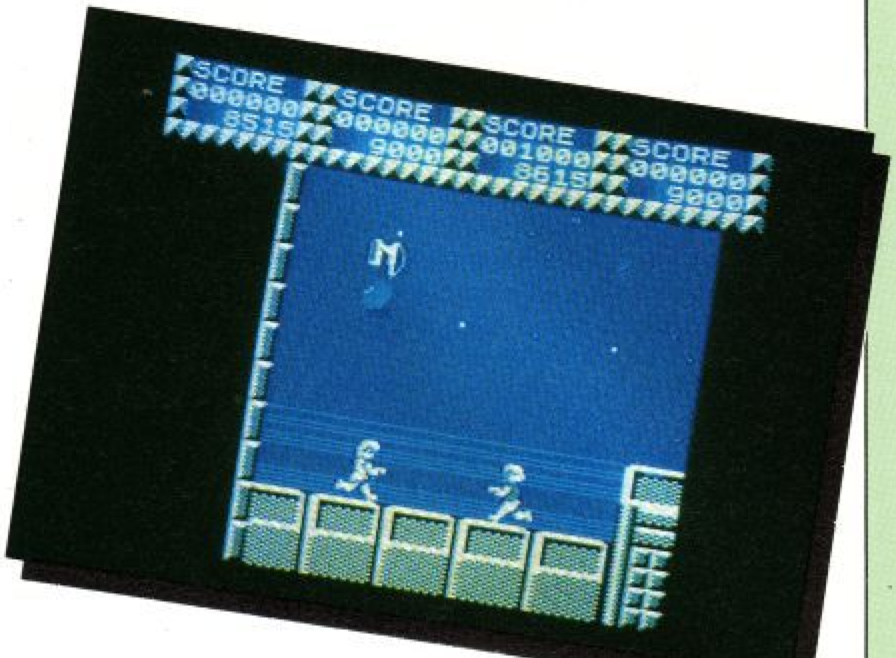
Colin

This has the makings of a very good game, but the compliments stop there, I'm afraid. What Convoy Raider needs is a better sense of being involved. The three sub (no pun intended) games are just not exciting enough. Even steering the ship could be more involved, a full-speed ahead lever, proper navigation, tides and currents.

I found it very difficult to work out where the submarine I was supposed to be depth charging was, and the missile launch was both boring and frustrating. The Beachhead shoot-the-planes-out-of-the-sky bit was OK but not worth buying the game for.

12/20

QUARTET



WHEN terrorists overrun and capture a space colony (he read from the back of the jacket), there's only one course of action. Send in the deadliest, most expert team of trained killers available. Send in the Quartet!

The Amadeus Quartet? They wield a fine set of bows, but perhaps chamber music isn't the most advanced weapon for winkling out the wicked terrorists. The Monkees might do it. They were a load of winklers.

I jest. The Quartet is Edgar (honest), Lee, Mary and Joe. As befits a finely integrated fighting force, they each have a forte. Edgar, he jumps (and vacuums), Lee totes a meeee-an wide beam gun, Mary is hot-hot-hot on the powerful bazooka, and Joe plays bass. And he runs fast.

The game starts by letting you pick which one of these proficient pulverisers you wish to be responsible for in the deguerillarisiation that is about to happen. Those with a consenting friend can chose the two player game and have twice the fun for the price of one. Grunt.

Once the player is in the arena, it's blast away time. If it moves, shoot it. There's no need to worry about the usual problems of energy, ammo or shields. None of that mamby-pamby faffing around, you shoot, run, then shoot again. Aharrrr.

If you physically tangle with an alien then you die, but if he gets it from your gun/bazooka/thingumywidget then he dies. Read that sentence through a couple of times and you'll see that it all hangs together. It might not be as profound a logic as that expressed by Russell and Whitehead in their Principia, but for a game such as this, it should do. And did Bertie ever write a video game? Well then.

But don't be fooled into thinking that this game is lacking in the old subtleties. Wonder of wonders, there are Quartet Power-up Goods about. Blunder into a jetpack, for example, and you can fly. Mirabile dictu. Trot on to a trampoline and you can jump higher, a clock and the aliens stop for a bit, smart bomb potion (thanks to Doc Robert) and they all die at once, and so it goes.

Most of the aliens die with just the one bullet. But on each screen there is a Large Mechanical Monster. This absorbs a lot of bullets before expiring, but then it releases a key with which you can progress to the next of the 15 levels.

In between screens there is a touching award ceremony where any bonus you might have accrued is pasted on to your score. Touched I was.

Meanwhile, the aliens have turned from terrorists on the outside of the jacket into pirates on the inside. They burst from pimples on the walls of the rooms, and bear down on you. Their disguises (aerosol cans, walking Y fronts et al) don't fool you for a moment.

As you progress up the levels, the graphics change colour and the occasional new sprite pops up. The excitement builds through an almost unbearable crescendo to... well. Something.

Author: Activision
Price: £9.95 (tape), £14.95 (disc)

Nigel

I feel unwell. My fatal mistake was playing this game after Game Over, a bit like a eating a packet of Cheezy Crunchies after a slap-up at the Savoy. This game leaks boredom, tedium and lack of care the way the other oozes consummate skill.

The graphics are terrible, flickery, juddery and monochromatic. Why use a four colour mode if you only display two colours? Pah. It would be overpriced as a Spectrum cheapie with those graphics. The only fun is trying to guess how to start the game from the front screen without deciphering the instructions.

7/20

Liz

When I played Wonderboy I thought, what crummy sprites, they should've used Mode 1. Then I played this and discovered that they can do just as poor a job in Mode 1 as they did in Mode 0. The game shows all the things not to do with sprites. They are single colour, small and flicker like an early Charlie Chaplin movie. The arcade game was always in the shadow of Gauntlet but that is no reason for an inferior conversion. The money Activision have spent on advertising this game should've been spent on better programming.

6/20

Colin

Quartet is an odd game, it feels very American, cute characters which include a token female sent around a space complex weapons blazing. If you want to see this kind of thing done well look at Exolon, there is no reason why Quartet could not have been just as good.

6/20

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WONDERBOY



WONDERBOY is Sega's answer to Jack the Nipper. A wee toddler, so cute he should be on That's Life, dashes through the jungle to rescue his girlfriend Tina from the evil King.

This King fellow lives across seven territories, bizarre and treacherous. These seven are further subdivided into four lands, each consisting of four areas. Thats, er, um, 112 areas. At the end of each territory waits an Ogre. They all have to be vanquished in a suitably heroic way. Doesn't ogre well, does it?

As progress is made left to right, the wunderkid has to pick up fruit and burgers growing from the trees,and break open magic eggs containing skateboards, axes and fairies. It's funny, but now I come to explain this to somebody else, it does seem a bit odd. In the game it all makes sense. Ah well.

Apart from the ogres, there are snakes, toads (toads, like frogs, are amphibians. Some editors think they're reptiles. What toads think of editors has never been accurately explored...), fireballs, rolling stones and poisonous snails. And wasps. This collection of jungle denizens are out to get the lad. They would be.

Not only does the enfant terrible have to leap, stab or skateboard over all these challenges, but he also leaps athletically across yawning chasms, dozing detritus and sneezing valleys. There's also the old vitality meter (who's been at their thesaurus then?) along the top of the screen which runs out as he runs along.

These few simple bits of video gamery are put together with a hidden cunning which only becomes apparent after a few minutes. The stealth and intelligent malevolence behind some of the pitfalls is quite at odds with the cuteness of the graphics. For example, a toad (classification amphibian, as previously noted) is placed at a jump point. It can be got rid of with a few suitably aimed stone hatchets, but all weapons get lost if you lose a life, so a previously trivial problem can become difficult in a major way if you don't get it right first time.

Likewise, there are the traditional rising lifts to help the young 'un cross a particularly nasty bit of gappery. There are also some bonus fruit hanging hummingbird-like over the hole. If one waits for the lift the bonus groceries vanish, but if one makes the leap there's a good chance that those bananas will be one's last repast.

And as the vitality meter trickles out, it's important to grab every hunk of edible substance that's there.

There are some hilarious touches; the way the kid goes up in flames when he touches a bonfire is as funny as it's possible to be. Child immolation? No worse than zap-the-green-fiend, 'spose. Likewise the frying of monsters, and the guardian angel hovering above, are highly chuckle causative.

So in some ways it's a standard jog along and save the girl game, and in others it makes good use of the plethora of standard gadgets that make up such software. Unexpected.

Author: Activison
Price: £9.99

Nigel

Suppress the rising gorge, oh ye of sensitive nature. This is a game that's easy to get into, well designed and implemented, and impossible to stop playing. It would have been very easy to produce a game using exactly the same storyboard, graphics and action that would have been boring as spreadsheets. Instead, my faith in the arcane nature of arcade game design is restored.

Ignore the music; that's worse than a grade 1 piano exercise. Ignore the wonderfully awful loading screen. This is a goodie.

18/20

Liz

This is not an arcade conversion, it's a conversion from the Crummodore 64 version. That was an arcade conversion. It loses in the translation. The same naff colours as the '64, the same garish sprites. Converting a game is not a task to be sneezed at, but it could have been done so much better.

6/20

Colin

This Tarzan trapise features some ambitious attempts at advanced programming. Hardware scrolling a large area and software scrolling the score to keep it in place, large sprites and plenty of animation. Only the animation works. The scroll shudders and the sprites are erratic. The sprites are poorly defined.

The arcade game benefited from it's cuteness. Computer games are not just a tangible collection of bytes, they need to collect the atmosphere of the scenario, in this case a jungle, and dispense it through the micro. Wonderboy has none of the magic of the arcade. It is a dull game programmed adequately.

8/20

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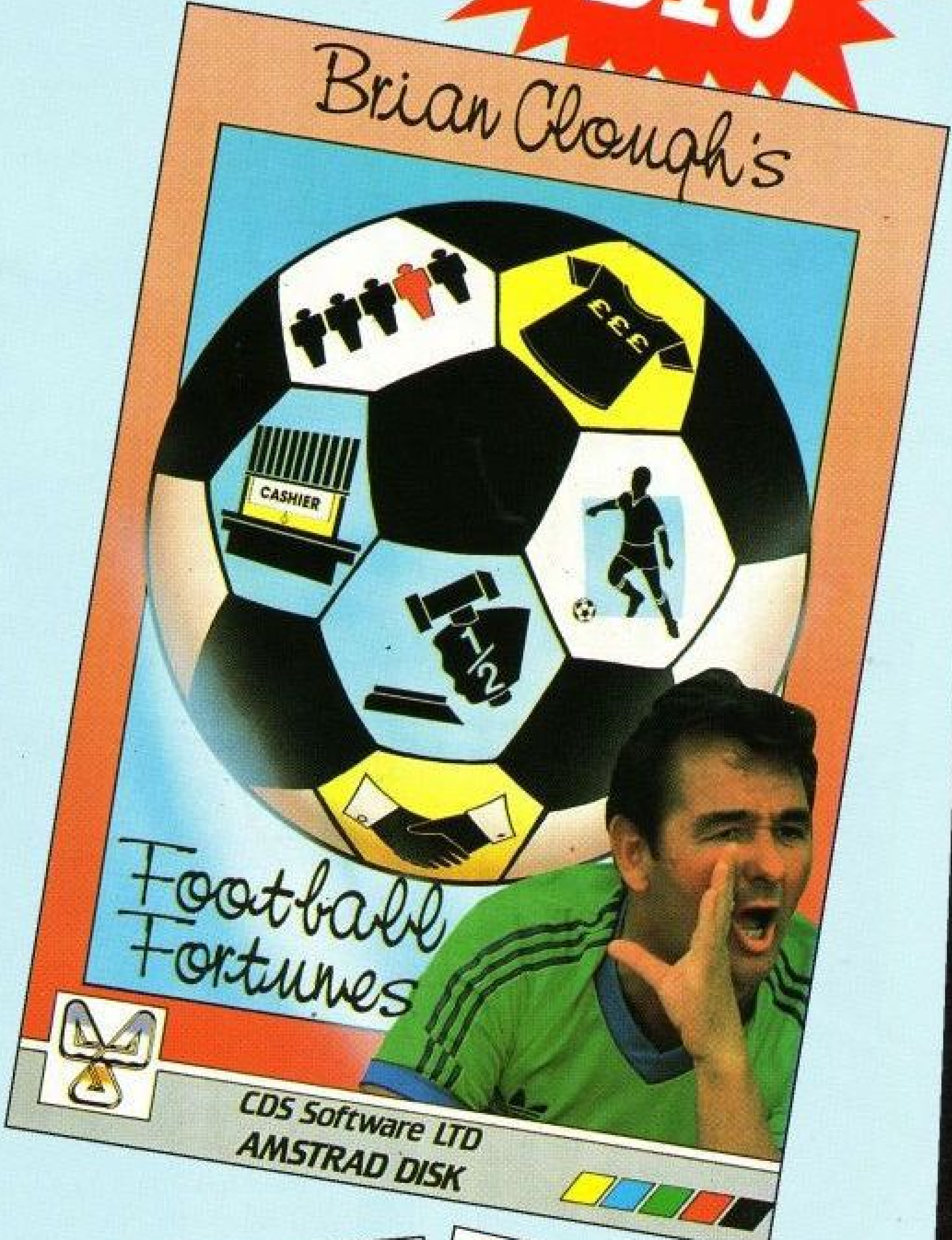
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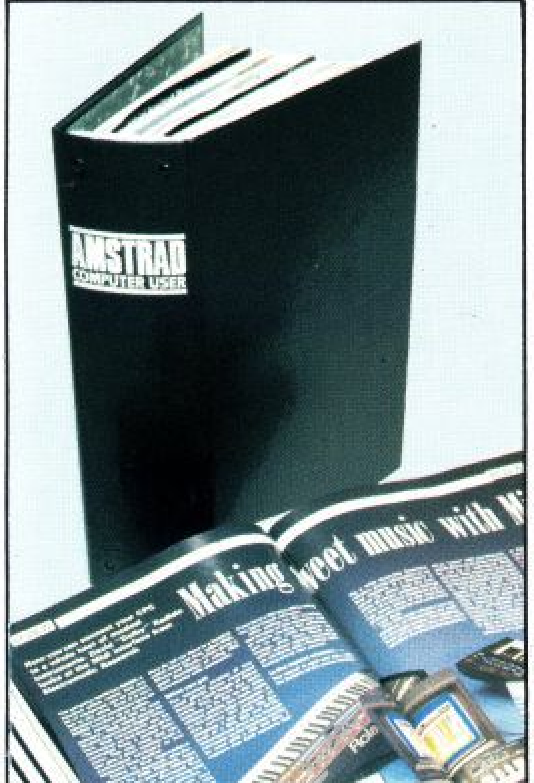
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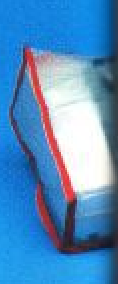
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April: Computer Journey – what makes your Arnold tick, the Men from Microprose, Amstrad RS232 reviewed, Sentinel from Firebird, back-up reminder program.
May: Ambug – Build it yourself robot, Empire review, Art Studio from Rainbird. Plumberdroid Lizting, Plan It, the house finance organiser.
June: Ranarama from Hewson, smooth screen scrolling, Head over heels mega map, Maxam II, Motor racing games, Citizen MSP printer, Machine code triangles.
July: Mission Genocide – exclusive preview. Computer Journey II, what makes your discs drive. Amstrad Vs Star wide printers. DK'Tronics battery backed up clock. Hewson interview. Parrotry art package.
August: Starfox preview, CPC through the crystal ball, how to program, Ultramon and Devpac machine code reviews, machine code breakout and Cheetah midi keyboard.
September: Living Daylights (the game of the film), a look at Amster's Cage, the HFP home finance for CP/M+. Looking at roms, how to de-bug programs, plus a look at CPC areas on bulletin boards.

With monitor, data
£100 of software yo
(Until mummy catc



With the Amstrad 464 home computer the fun starts as soon as you get it home.

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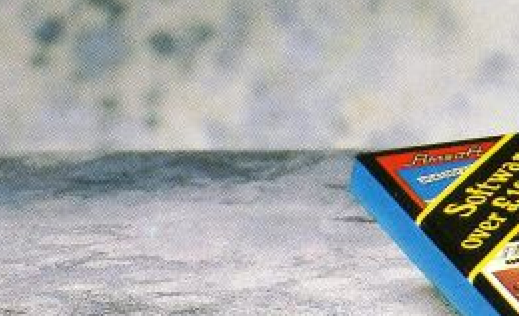
It also comes with a convenient built-in datacorder.

And you get £100 worth of software with games like Harrier Attack and Sultan's Maze. Not to mention Oh Mummy.

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The Least Significant Bit

THE legal process is supposed to be slow. Well Amstrad has got the fastest legal advice about. Company lawyer David Hyams has bought a motorbike, and it's no 125cc learner special, it's a sleek BMW which will outpace his bosses' BMW 7 series. They are being replaced by E reg Jags.

Food for thought

What do you say when you stub your toe? I say "sugar", at least I do in mixed company. But if your name was Sugar what would you say? I mean you wouldn't get Sir Clive saying "Oh Sinclair". Well the great man's retort to burning the toast, or formatting the wrong disc is equally edible: "Oh sausages".

Hidden code

This is an Amstrad magazine, and should be an Amiga-free zone, but I couldn't resist telling you about a special function of the Amiga rom. If you hold down both alt keys, both shift keys and press a function key the workbench page displays a list of the programmers' and engineers' names. If you try to pop the disc out you will have run out of hands, so get a friend to do it. You will find out what the designers think of Commodore.

The Z88

In the days when everyone knew who Sir Clive was, Spitting Images produced a book with a fake advertisement for the Sinclair, "We haven't thought of it yet". It is interesting to compare the specification in the lampoon with that of the real thing. Spitting Images did not say that ram and rom were mutually exclusive, 4 meg total, so neither have I.

Spitting Image	Cambridge Computers
4 million k rom	Up to 4 million bytes ram
4 million k ram	Up to 4 million bytes rom
5 million k rim	What's rim?
Colour: Black	Colour: Black
Tangled leads: 12ish	Tangled leads: none ish
Squelchy rubber keyboard	Spot on!

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